

SEP 12 1924

Medical Lib

THE

MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—11TH YEAR.

SYDNEY: SATURDAY, AUGUST 9, 1924.

No. 6.

Surgical Instruments

We are pleased to announce that good general stocks of our Surgical Instruments have arrived and that regular supplies are now coming forward. Members of the Profession are cordially invited to visit our Show Rooms.

Allen & Hanburys (Australasia) Ltd.

Instrument Makers to H.M. Army and H.M. Navy

AUSTRALASIAN BRANCH:

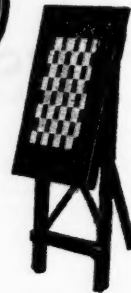
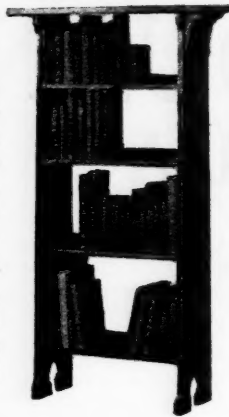
B.M.A. BUILDING : Elizabeth Street, Sydney

F1/177. Bookshelves, Oak or Maple, fumed and waxed, as illustrated, 63/-

With 3 shelves.

Size 4 ft. x 3 ft. 6 ins. 85/-

Size 3 ft. 6 in. x 2 ft. 3 in. 57/6



D7/292. The "Utility" Table closed, showing draught-board top. Size 24 x 24 x 28½ ins. high. Pine, Walnut colour, waxed finish. £1/9/6
Oak, light col. waxed fin. £1/15/6
[Patented]



D7/292. The "Utility" Table open as Tea Table. Plain top. Size 24 x 24 x 28½ ins. high. In Pine, Walnut colour, waxed finish. 19/6

In Oak, light colour, waxed finish. 25/6

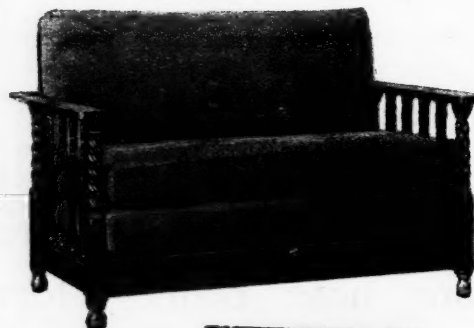
Same table covered with baize for card playing, 10/- extra.

One movement only required to fold up table.
[Patented]



A3/279. Windsor Chair. Oak, waxed finish. £4/5/-

Small Chair to match £2/17/6



D2/297. Supper Table, Jacobean design, Oak, waxed finish. 3 ft. diam. 20 ins. high. Legs fold up under. £5/5/-

One of our new supper tables, only 20 ins. high. Enables the hostess to serve supper or afternoon tea from her arm chair.



D4/163. Pedestal, 12 in. circular top, 36 in. high. Oak, waxed finish.

£4/18/6



BED SETTEE £23/18/6

A2/193. Size as Bed 6 ft. 3 ins. x 4 ft. 2 ins. inside arms. Size as Settee 4 ft. 2 ins. x 2 ft. seat size. Covered in Burlap. £23/18/6
Makes full size comfortable double bedstead when extended, and a beautiful settee when closed. Well upholstered kapok Cushions, covered in Burlap.



D4/160. Pedestal, 12 ins. x 12 ins. top, 36 ins. high. Oak waxed finish.

£5/15/-

Beard Watson & Co. Ltd.
GEORGE STREET, SYDNEY.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—11TH YEAR.

SYDNEY: SATURDAY, AUGUST 9, 1924.

No. 6.

Table of Contents

ORIGINAL ARTICLES—	PAGE.	ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	PAGE.
"A Method of Treatment in Fractures of the Long Bones," by NORMAN D. ROYLE, M.B., Ch.M.	133	Therapeutics	148
"Specialists and General Practitioners: Their Education and Relation to Each Other," by R. SCOT SKIRVING	137	Urology	149
REPORTS OF CASES—		BRITISH MEDICAL ASSOCIATION NEWS—	
"Two Cases of Acute Pulmonary Œdema," by RAYMOND T. BINNS, M.B., B.S.	141	Scientific	150
REVIEWS—		Medico-Political	156
Diathermy in Pneumonia	142	Nominations and Elections	156
An Encyclopædia of Medicine	142	POST-GRADUATE WORK—	
Diseases of the Breast	142	Prize Essay on the Prevention of Maternal Mortality	156
New Conceptions of Heart Disease	143	UNIVERSITY INTELLIGENCE—	
Physiology for Students	143	The University of Sydney	157
Endocrinology	143	CORRESPONDENCE—	
The Circulatory System	144	Obstetrics	157
The Duodenal Tube and Biliary Drainage	144	OBITUARY—	
LEADING ARTICLES—		Arthur John Vause	158
Cancer Research	145	MEDICAL APPOINTMENTS	158
CURRENT COMMENT—		MEDICAL APPOINTMENTS VACANT, ETC.	158
The Phenomenon of Iso-Hæmagglutination	146	MEDICAL APPOINTMENTS: IMPORTANT NOTICE	158
The Origin of Bilirubin	147	DIARY FOR THE MONTH	158
		EDITORIAL NOTICES	158

A METHOD OF TREATMENT IN FRACTURES OF THE LONG BONES.

By NORMAN D. ROYLE, M.B., Ch.M. (Sydney),
Honorary Orthopaedic Surgeon, Lewisham Hospital;
Honorary Orthopaedic Surgeon, The State
Children's Relief Board.

THE outstanding problem in the treatment of the fractures of long bones is the maintenance of reduction of the fracture. In the average case the displacement of the fractured ends can usually be corrected with the aid of anæsthesia, but it is admittedly difficult to prevent some degree of re-displacement. Muscular action is usually considered the greatest factor in producing re-displacement, but the necessity for this muscular action is not always clear. It is customary for writers on fractures to say that displacement is due to tonic muscular contraction, but here again an examination of tonic muscular contraction in muscles at rest reveals that the force of tonic contraction is not sufficient to maintain the weight of muscle substance evenly between attachments without slack appearing in the tendon. Before muscular action can be commenced in a muscle at rest from any position except perhaps complete elongation, an appreciable time is lost in taking up this slack.

This fact can be demonstrated with ease by examination of the tendons controlling a joint such as the knee. Slackness in the patella tendon is most evident when the knee is supported in complete extension, but it can be demonstrated in both the flexing and extending muscles with the knee at rest in semi-flexion. Attempt to extend voluntarily the knee from this position and slack is taken up in the patella tendon before a movement of the leg can occur. Similarly the tendons of the flexing muscles are felt to tighten before the leg can be made to flex on the thigh.

The muscles of the limbs are thus not to be compared to elastic bands whose ends tend to draw together as soon as an extending force is removed. The active function of muscles is to control the movements of joints and the long bones maintain the position of the fulcrum on which the force of muscular contraction produces movement. It is not the function of muscles to maintain the stability of a segment of a limb. This is done by the long bones.

Changes Set Up by Fractures.

When a fracture with displacement occurs in a long bone, sensory disturbances are set up and stability of the segment of the limb is lost. Either of these factors could cause muscular rigidity and

the shortening appears to me to be due partly to a conscious effort to maintain stability and partly to the unconscious reflex influence of trauma at the seat of fracture. The initial shortening will not be increased if voluntary action ceases, but the shortened position tends to be maintained on account of the plastic element in muscle tone. This element tends to fix a position imposed by voluntary action or by any variation in the amount of somatic tone. Plastic tone of sympathetic origin and somatic tone depending on the integrity of the medullated nerves both arise from reflected sensory stimuli and will only cease to be excessive when the abnormal stimuli are inhibited.

If these views be accepted, the obvious treatment is to provide a substitute for the fractured bone and restore stability to the segment and to inhibit the sensory disturbances by placing the injured segment at rest.

Current Methods of Treatment.

The usual treatment by continued extension is effective when the muscles are too exhausted to offer further resistance and because a certain degree of stability is conferred upon the limb by extension and by accessory supports used to assist extension. When extension is not used the reduction of the fracture under anaesthesia may give a good result if the subsequent fixation fulfils the demands specified above. In most instances this is not so and shortening tends to reappear unless the fracture happens to be transverse and an end-to-end reduction is obtained.

Operative reposition and fixation of fragments fulfil the demands in one respect, but have to rely on some external fixation to render internal fixation effective. One writer recently claimed satisfactory results in fractures of the femur only by employing three methods simultaneously: (i.) Internal fixation by means of a metal plate, (ii.) external fixation by means of plaster of Paris and (iii.) extension of the femur by traction through the condyles of the femur.

Most of the methods of treatment of fractures of long bones are too complicated and demand so much apparatus that no one except a surgeon attached to a big public hospital can confidently undertake the care of fractures. To meet this difficulty I have endeavoured to devise a method that is at once simple and effective and can be applied as well in an outlying country district as in a well equipped hospital. The method involves a knowledge of plaster of Paris technique and aims at taking away the necessity for muscular action by fixing the joints in their normal position and by providing an exoskeleton to support the soft tissues. The ordinary method of applying plaster of Paris has the disadvantage that it is not easy to maintain reduction while the bandage is being applied and secondly the plaster casing tends to retract, when drying, from the bony prominence and thus allow some re-displacement of fragments. To prevent re-displacements the joints above and below the seat of fracture are first encased and the plaster is allowed to set. When the end-casings are suf-

ficiently hard, reduction of the fracture is effected by manipulation or by traction. The traction is made on the plaster end-casings which are thus made to fit against some fixed point. The middle section is then plastered to retain the ends in position and support the weight of the soft tissues.

In most instances it is advisable for obvious reasons to make a trial reduction before any plaster is applied.

Details of Technique.

In applying plaster of Paris in the treatment of fractures cotton wool padding must not be used. It is difficult to apply a smoothly fitting plaster over cotton wool; the plaster sets more slowly and the fixation is not accurate. The limb should be covered with stockinette or some similar material fitting without folds. The bony points against which the end casings are drawn should be protected with a layer of felt. Good quality saddle felt is sold in layers about two centimetres thick, but can be easily split to a thickness of about one centimetre and this is sufficient excepting in a few situations. If swelling is feared the surgeon and the patient may be made comfortable by splitting the plaster longitudinally over a rubber strap. Rubber straps are easily made from discarded motor tubes and can be put to many uses in surgery. In all operations necessitating the use of plaster of Paris for fixation I use a rubber strap, placed beneath the plaster as a guide for splitting the casing at the end of the operation. The longitudinal splitting of the casing does not weaken the support but allows the casing to expand to accommodate any increase in volume. The rubber is drawn out from one end of the casing as soon as the splitting is accomplished.

In treating closed fractures there is seldom any need to split the end-casings, but I almost invariably split the middle section. This allows for swelling when there is any and should there be any necessity to adjust the fracture subsequently, the middle section can be removed without disturbing the ends.

The Technique Applied to Various Fractures.

Fractures of the Femur.

The lower limb is covered with a closely fitting stocking and the trunk and pelvis can be protected with suitable underwear. It is not necessary to cover the foot.

Step I.—After the patient has been anaesthetized the lower third of the thigh and the leg are put into plaster. The pad of felt, half the circumference of the limb is placed behind the knee joint, extending down the posterior aspect of the leg. The plaster is allowed to harden with the leg at right angles to the thigh.

Step II.—Traction as illustrated is then applied to sustain the weight of the limb and the patient is elevated on to a pelvic support. In emergencies an inverted enamel basin is a good substitute. One layer of felt is placed over the spinous processes and extends from the sacrum to the mid-thoracic region and another is laid over the anterior superior

spines of the ilium. The trunk, pelvis and upper third of the thigh are then enclosed in plaster. The speed in applying this section is greatly increased by using wide bandages. I usually employ bandages from fifteen to twenty-two and a half centimetres (six to nine inches) wide according to the size of the patient. The thigh is placed in a position between 45° and 60° flexion and this position is more easily retained by using a strip of aluminium placed laterally in the region of the hip. Aluminium is used because of its lightness and plasticity and while it bends easily on its width and can be moulded to the contour of the hip, it offers great resistance to bending in its length. As in every other instance in which the trunk is enclosed in plaster, allowance must be made for the varying size of the abdomen and for diaphragmatic respiration.

Step III.—The patient is lowered off the pelvic rest as soon as the plaster is hard and reduction is effected. To do this a combination of manipulation and traction is necessary. The thigh of an adult is too heavy for an assistant to maintain traction and the illustrated pair of pulleys is used: one to counteract gravity and the other to effect and maintain extension. It may be necessary to divide the covering of the thigh transversely to allow the knee to be drawn away from the hip in carrying out reduction. The middle section can then be padded with a single layer of wadding (not cotton wool) with the glazed side out; a strip of rubber is placed on this anteriorly and overlaps the end-casings and the plaster is then applied. While this section is drying the plaster can be moulded to preserve the anterior bowing of the femur.

In a heavy subject another strip of aluminium may be incorporated in the middle section of plaster to preserve rigidity. The middle plaster is immediately sectioned longitudinally over the rubber guide and the rubber is withdrawn. The section of plaster on the leg and knee may also be cut longitudinally to allow movements of the knee joint at the appropriate time.

When a femur is put up in this way discomfort ceases immediately. The exoskeleton gives support to soft parts, prevents movement and restores stability to the defective segment. Muscular action is no longer necessary and there is no tendency to re-displacement since the ends are fixed at their correct length and the muscles are at rest. We have all gone through the nightmare of trying to provide against the action of certain muscles and fractures of the same bone were to be treated in different ways because the line of fracture hap-

pened to be above or below the insertion of a certain muscle. But these muscles at rest have no more effect on fragments than the quadriceps has on the patella in a normal resting knee. I have pointed out above that normal tone of muscles at rest could not cause displacement and the same statement applies even in the presence of a fracture when excessive tone is inhibited and muscular action is rendered unnecessary.

As might be expected, swelling is not a conspicuous feature in fractures treated by the three-plaster method. Relaxation of muscle has as a physiological concomitant vaso-constriction. This limits the swelling and the circulation is only disturbed by the chemical irritation of extravasated blood or tissue debris at the seat of fracture.

If the hip and knee are plastered in correct position, the patient lies comfortably with the foot just clear of the bed. The whole lower limb and pelvis can be lifted without disturbing the seat of fracture and without giving the patient any discomfort.

Fractures of the Leg.

Step I.—The leg and lower third of the thigh are covered with stockinette and a layer of felt is shaped to protect the proximal end of the tibia and fibula. This gradually expanding end of the tibia provides a sloping surface against which the plaster casing can be fitted. The casing should cover the proximal third of the leg, the knee joint and the distal third of the thigh.

Step II.—After a layer of felt has been fitted to protect the maleoli, the *tendo calcaneus* and the heel, the foot and the lower third of the leg are enclosed in plaster.

Step III.—When the casings on each end have set, traction is applied to draw them against the bony prominence. The fracture is reduced and while the reduction is maintained by traction, the middle section is plastered.

Such a leg may be allowed to lie in any position without fear of disturbing the fracture. In hospital the routine X-ray examination on the day following reduction gives no discomfort to the patient and presents no difficulty to the radiographer since the limb can be turned into any position with impunity.

Fractures of the Humerus.

Fractures of the humerus can be treated by applying a plaster casing to the shoulder after padding the axilla and to the elbow joint. The elbow is fixed in flexion with a layer of felt covering the anterior surface of the arm and forearm. Care must be taken in using this method not to separate the fractured ends in transverse fracture of the humerus.

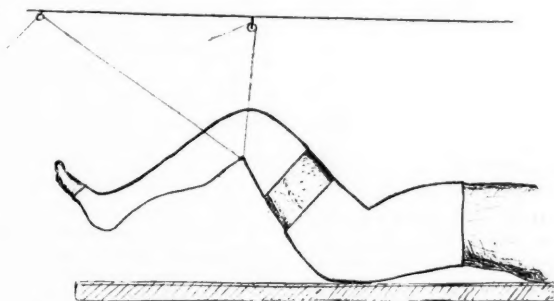


DIAGRAM.—Illustrating Method of Applying Traction in a Fracture of the Femur.

Fractures of the Radius and Ulna.

Fractures of the radius and ulna when occurring simultaneously can present great difficulty and while anatomical reposition of both bones may be impossible, mal-alignment, mal-union or cross union should usually be preventable. The difficulty of restoring complete function has influenced some surgeons to insist on treating these fractures with the patient confined to bed so that adequate extension may be maintained. The three-plaster method maintains extension and at the same time supports the fractured bones and prevents sagging of soft tissues. It is applied in three steps.

Step I.—The hand, forearm and lower half of the arm are covered with stockinette. A pad of felt is made to protect the hand as it expands on the wrist. Plaster is applied over this to the lower third of the forearm and hand carrying a band between the thumb and index finger.

Step II.—A layer of felt protects the anterior and lateral surfaces of the upper third of the forearm and the lower half of the arm and plaster is closely applied with the elbow in at least 90° flexion.

Step III.—When the end-casings are dry, reduction is effected by drawing on the casing on either end. This always gives satisfactory alignment even though the fractured ends are not perfectly replaced. The middle section is then plastered. Should the X-ray examination reveal any sagging or other circumstance needing correction, the middle section may be easily removed and the correction effected without another anaesthetic. I have improved the position in a number of these fractures when the occasion demanded it by making a circular saw cut in the middle section some days after the original reduction and drawing the two ends apart again. The muscles by this time are as easy to deal with as in a patient under anaesthesia and the procedure does not produce pain. Correction of other fractures can be done similarly.

In describing this method I have referred frequently to thirds of a segment of a limb. This need not be interpreted literally for it is often convenient to leave only a small gap between the end-casings. In these instances the middle plaster is no more than a wedge keeping the ends apart and at the same time overlapping each sufficiently to maintain rigidity.

Accessory Treatment.

The restoration of function is the aim of treatment and this is best served by preventing loss of power in the resting muscles. No useful purpose is served by allowing movements of muscles to interfere with healing during the early days of treatment. Passive movements are not necessary in most cases, though in a few instances in older subjects or in the presence of some complication passive movements may occasionally be advisable.

Massage.

The value of massage in fractures can be estimated by thinking how massage affects the tissues. There are broadly two ways in which massage acts:

(i.) Mechanically. By actual pressure oedema can be made less and congestion round the seat of fracture can be relieved. This is, however, not practical in recent fracture since the same procedure would tend to re-displace fragments and set up muscular activity again. This objection does not hold in later stages when union is well advanced.

(ii.) Massage may reflexly produce desirable effects if the manipulation is confined to the lightest superficial stroking. It is well established that such a procedure is capable of producing muscular relaxation and vaso-constriction reflexly and is used by some authorities to assist in reduction of displaced fragments. No amount of massage will, however, compensate for a badly reduced fracture and it is advisable to attempt mechanical reposition at the commencement of treatment. Good functional results are claimed and are obtained by the massage method, but there is no objection to having a good anatomical result as well.

The three-plaster method allows anatomical reposition, it produces muscular relaxation and reduces oedema by inhibiting the reflex-disturbances arising from the seat of the fracture. The necessity for early massage is therefore not as great as in unsupported fractures. It would be possible to administer massage without difficulty in the method by enlarging the longitudinal split in the middle section, but from a practical point of view union will occur just as quickly and function will be restored by relying on active movements.

Active Movements.

Active movements are the most valuable therapeutic agent in restoring function after fractures. In the three-plaster method active movements may be carried out in most instances at an early stage. The muscles controlling the knee joint may be given a considerable range of movement by splitting anteriorly the plaster on the leg section. In fractures of the leg movement of the essential muscles may be allowed by splitting the plaster on the foot section along the sole. In the treatment of fractures of the forearm the muscles of the hand are free to do active movements from the commencement of treatment and if the surgeon desires, there is nothing to prevent the patient exercising the pronating and supinating muscles within the casing. Provision can be made for active movements in fractures of the humerus also by allowing the forearm to extend on the elbow.

The Restoration of Function.

Rapid wasting in muscles is an evidence of continuous action. In normal muscles this occurs in the presence of arthritis and in unsupported fractures. The immediate treatment of fractures of long bones by the three-plaster method takes away the necessity for muscular action and allows a reasonable amount of active movement. It thus counteracts the atrophy of disuse. It is not unreasonable to suppose that a more rapid restoration of function is thus possible.

The plaster of Paris casing is removed as soon as it has served its purpose. This varies with cir-

circumstances, but may be estimated by X-ray examination or by testing the rigidity of the repairing bones. In the fractures of the thigh, for example, the stability of the bone may be examined in the third week by splitting the casing on the anterior surface of the thigh in addition to the section already split on the leg. In the forearm and the leg the necessity for traction disappears at the end of about fourteen days and the full range of movement may be allowed. The plaster casing is then used as a splint to prevent sagging of the bones at the seat of fracture.

SPECIALISTS AND GENERAL PRACTITIONERS:
THEIR EDUCATION AND RELATION
TO EACH OTHER.¹

By R. SCOT SKIRVING,
Sydney.

LAST year your Secretary was good enough to ask me to address you on some subject pertaining to medicine. Unfortunately I was unable to come to Queensland. I remember also that my good friend and colleague, Dr. George Rennie, was at the same time to read a paper on diabetes and glycosuria—illness prevented him from doing so, but I am glad to see that the paper he prepared has been published and is, like all his work, clear, helpful and convincing.

I had at first thought of bringing some small offering in the way of a purely professional paper, but I think you probably have plenty such. Indeed unless one has some special message of professional lore to communicate, it is just as well for the seniors of the profession to try on occasions like this to put in a "listenable" shape the thoughts which years of practice have crystallized on various matters affecting the profession as a whole. Even with this small purpose before me I fear that I have nothing new to say nor any suggestion worthy of the compliment you have paid to me for the betterment of the education of the young doctor or the apportioning of kinds of practice to those who are already engaged in the search of a living.

However with these words of deprecation I will ask your patience in listening to the following discursive talk on specialism and the general practitioner.

When I began the study of medicine in Edinburgh in the late 'seventies, the scope of specialism, even in the large cities and centres of medical teaching, was a very small one compared with the little compartments of practice to which its divorce from general work has now reached. Nearly everyone was more or less engaged in general work. Even the consultants often were men who saw nearly equal numbers of medical or surgical cases. I remember the aphorism of one such surgeon who defined a surgical case as "a patient with a guinea in his pocket." Still, in the three capitals of the United Kingdom,

the separation of those who were physicians or surgeons, the latter practising what the great Trousseau called "operative medicine," was a fairly well defined cleavage. Certainly it was so in most instances where a man held a teaching appointment on the subject he professed as his own. Old Edinburgh men may perhaps rather question this statement and cite to me Joseph Bell, the original of Sherlock Holmes, or Patrick Watson, one of the deftest operators I have ever seen. Both these men practised about as much in medicine as surgery and they did both well, for in those days it was possible to have a competent working knowledge of the two main divisions of our craft.

If such overlapping existed in medicine and surgery pure and simple, you can well believe that gynæcology had no very clearly defined position. It did exist to a small extent, but especially as the co-partner of midwifery and on the whole rightly and some such union has persisted quite often to the present time. This is, I am inclined to think, as it should be—for the misfortunes and accidents incident to the whole drama of reproduction are by far the chief causes of the troubles which make the field of gynæcology. The man, therefore, who is concerned with the repairs due to reproductive misfortunes, is the best man in a way to concern himself with conditions which so greatly cause them and so he is in a position to try and prevent them. It always seemed an anomalous position for Mathews Duncan, when he migrated to London, to teach midwifery and the diseases of women and yet had to hand over the surgical treatment of the latter to a general surgeon with gynæcological inclinations.

As for the other specialties, as we now know them, there existed ophthalmology. It indeed had become fairly discrete from general surgery—yet both in its teaching and practice it was not very uncommon to find eye diseases still dealt with in a course of general surgery and even to find men like Jonathan Hutchinson, one who really "made all knowledge his province," practising as an ophthalmic surgeon in addition to dermatology, syphilology and general surgical work. Ear, nose and throat had hardly laid their useful heads upon the perineum, while orthopaedics, cardiology, neurology and many other sub-divisions of medicine were still in the womb of the future. Specialism of a yet closer sort, indeed, of one disease was practically unheard of in the ranks of the qualified. True, I recollect one instance as far back as 1883 in Sydney where an Indian practitioner (I never saw his diploma) so restricted himself that his large calico sign bore the legend: "Hami-ra-Wazra, Indian Eye and Pile Doctor." Another practitioner at that time, a gynæcologist I presume, confined himself to "Obstructions and Whites." But these men were exceptional. Such then was roughly the separation of specialism from general work, so far as it had gone at the time of which I speak.

The general practitioner in those days was in all his glory. In Scotland at any rate he really was a very able being. William MacLure was not alone

¹ Read at a meeting of the Queensland Branch of the British Medical Association on June 6, 1924.

to be found in the delightful pages of Ian Maclaren. I have seen many of his like—wise, shrewd, kindly and competent. Single-handed he coped with difficult labour and the ordinary emergency operations of a practice in the country or a small town where he dealt with with judgement and safety. In the troubles of childhood he had common sense and experience and the roast and boil of ordinary medicine found him a safe man at the bedside. True he was sometimes rather septic in his technique—but small blame to him when even London at that time was not yet lit by the lamp of Lister. Appendicitis was peritonitis to him or a phlegmon. Ascites frequently was just "water on the belly" and aberrant pyrexias and pains were "inflammation" somewhere. Spinal lesions were grouped under the general heading of paralysis and instruments of precision in diagnosis were usually and perhaps happily at that time unused by him.

At this date or a little earlier perhaps two changes to modernism had begun. The apprenticeship system had nearly ended and the common custom of dispensing one's own drugs was less general, except in places where that arrangement could not be avoided. I have even now sometimes some doubt if the cessation of the apprenticeship system has been, at least as regards future general practitioners, an absolutely unmixed blessing, but I have no doubt that it was well that the making up and selling of medicines should cease. A man in large general practice is tired enough with visiting and seeing his patients without the added labour of dispensing and I might add in no unkindly spirit the temptation to hurried and unfaithful pharmacy with the added unpleasantness of being suspected of augmenting the bill by the cost of drugs. Even so long ago as the time of Thomas Dover, of the powder of that name, that free lance consultant inveighs against the general practitioner of his day for his polypharmacy and frequent changing of the patient's physic and he instances "cases where in the course of a fever £60 was charged for medicine when £4 would have sufficed."

In the past when an industrious capable man was able to attain to an all round knowledge of his profession, these types of men, consultant or general practitioner, were quite able to fill their respective positions in life with success and safety, but with the growth of knowledge such a condition could not last. The consultant had to narrow his sphere of practice as much as the general practitioner had to give up patients or at least to call in expert advice in cases where a few years before he could have drifted on in happy ignorance, shared alike by doctor and patient, that the best was not being done. Specialists had arrived and all hail to them.

But there are specialists and specialists and none of us want the type of man whom a disgruntled general practitioner once bitterly described as one "who based his right to the term on his ignorance of general things!" There may, I imagine, sometimes be a leaven of truth in this acid remark, for I think a specialist is a poor creature if he has let his whole professional outlook from the start con-

centrate itself on his one department of medicine. There are such men—not many I hope—and it irks one to meet them. Let us have specialists and specializing, as many and as much as the growing greatness of human knowledge calls for, but first let them be well informed all round men in their profession before they devote themselves to one branch of its practice. It is not easy to have complete faith or even patience with the type of specialist who has not served some sort of apprenticeship to medicine and surgery as a whole. Let him have resident appointments in a general hospital, in my judgement the most priceless education for every young doctor. Let him, if possible, thereafter do some general practice which is also of untold use. Let him at least do work for a considerable time at either medicine or surgery. Inclination and opportunity may then most righteously lead him to specialize in one branch of either, the eye, ear, nose or throat, urology, gynaecology or some branch of internal medicine—whatever you please, but let us at least try and avoid our specialists becoming such, so called, when the ink on their qualification is hardly dry. Surely a radiologist must be much more than a photographer. What sort of an eye specialist would be produced who had not a fair knowledge of diseases, say of the blood and kidneys? Surely a gynaecologist should know much of internal medicine and still more of midwifery? I see no reason why a urologist should not combine the special skill demanded by ureteral catheterization and renal efficiency tests with a knowledge that there exist other organs than the genito-urinary.

I do not know whether it be a subject for laughter or tears to recall the procedure of a young aspirant for a higher degree, a premature specialist, who asked his examiner for a cystoscope to diagnose a case of *tabes dorsalis*.

This matter of being well informed all round about one's profession makes me say too that I wish we were as a body better informed in general education than we are apparently.

I suppose we all recognize the triumphant march of democracy—it is irresistible and in most ways I suppose salutary, but it sometimes has rather a rough edge—and so I often sigh a little pathetically for old-world ways and courtesies and above all perhaps for a greater leaven of general knowledge in some of the rising generation in speech, in writing and an acquaintance with literature—in the possession in short of those things which sweeten the amenities of life and make us really deserve to be called a learned profession. Perhaps I am quite wrong in these views, yet I imagine the rising generation of doctors are not as well equipped in these matters of light and learning as those I remember in the days of my youth—although I admit their technical superiority. It pained me to listen the other day to the story of an examiner in one of our medical schools whose Latinity and liking for correct English was sorely tried by a candidate who repeatedly referred to the termination of the spinal cord as the "corder" equine. This just shows what

the speaker would do with his ordinary English. Nor was it a pleasant incident in an Australian dissecting room when another student came up to two lads who were dissecting a part, with the friendly greeting: "'Ullo, what are youse blokes a-doin'?" I do not clearly remember if it was not another term of endearment he used—but let "blokes" suffice. That such lapses are not confined to Australia I quote a passage from a wholesome book on the Arctic coast of Alaska, by Archdeacon Stuck. He says, *à propos* of what I am speaking about:

The colleges of the Pacific States are swollen with scientific and technical students who know nothing of literature and history. From them come our physicians and lawyers who go so far in depriving their vocations of the right to be called learned professions.

He instances one:

who with a Vandyke beard and gold *pince-nez* like a "painless dentist," as O. Henry says, and a most impressive manner talked about extracting a "populace" from a child's nose. Of course I knew he meant a polypus, but who would dream of entrusting himself to a man like that. From my point of view he was a quack, but he was furnished with diplomas.

"We was" as a mode of speech doesn't trouble me in ordinary people, but "we was" doctors are an offence.

Exactly; and he therein says just what I have often thought, that we, all of us, should be decently educated so as not to be a stumbling block and an offence from our lack of general knowledge in the eyes of educated patients who, however much they may wish well to the doctor, not seldom judge the man in his professional capacity by the general education he shows in his daily walk and conversation. Let us then see to it that every doctor is equipped with the education and ideals which will help him to practise his high calling with consideration and respect—as R. L. Stevenson has said, with generosity, difficult often to those who drive a trade—with honour, suitable in a profession in which mere money getting is not the be-all and end-all of his life's labours, and at the same time secured in his position by his technical skill. I am thus reactionary enough to ask something more of the "complete artist" in medicine than mere technical ability. I admit that in most cases a knowledge of Greek means an expenditure of time far beyond what the exacting requirements of professional study proper will allow; moreover, it is in no sense vital, but it is certainly, if nothing more, a great help in mastering the nomenclature of science. Of Latin I feel more strongly and I can see no reason why a moderate acquaintance with that language should be deleted from the entrance examination as has recently been suggested. I look with utter disfavour on any lessening of that test of preliminary education. The argument that unknown prodigies whose difficult surroundings in their teens may have made its acquisition an impossibility, does not greatly influence me when we deal with the educational portal to medicine as a whole and, if I say this of a dead language, how much more do I think that the living tongue of English should be acquired sufficiently well by every practitioner, so that he shall speak, spell and write in such fashion that none of us

are like the gentleman with "the Vandyke beard" against whom Archdeacon Stuck inveighs. We British are poor linguists—indeed, our insular yet world-wide dispersion makes it so that our own language carries us over most of the world without any great disability. Nevertheless one modern language at any rate as part of our mental outfit would widen our outlook and interests, not only in professional matters, but give us the key to the literature of another race.

Having now "slung off" a little, as some of my younger colleagues would aptly say, and aired some views on general education, I return to my main theme.

Let us admit at once that in modern practice to pretend to do justice to patients we see daily, would be criminal without the constant help of the specialist. We require an X-ray examination, the blood looked at, the urinary tract explored—indeed a dozen special avenues of diagnosis or treatment all connoting knowledge and special skill to which no one man can attain. The specialist has therefore come to his own and his usefulness and necessity go to show the value of team work—a condition readily, I hope, attainable in all properly equipped and staffed general hospitals. It is not so easily reached in private practice, when expense to the patient is so often a dominant factor. Still much can and must be done, expense or no expense, in obtaining special knowledge, if we are to do the best we can for private patients. It always makes me smile sourly when I hear those who try and accentuate class consciousness by talking of the advantages of the rich over the poor in the matter of medical attention. True, the rich can have more holidays, take longer rests and have a tranquil convalescence untroubled by thoughts of ways and means. But the poor who go into a good general or special hospital, have all the advantage over the "just barely comfortable in life people" who pay their way, and who make so large a percentage of a doctor's paying patients. Let us remember here that it is the glory of specialists that it is from them naturally that striking advances mostly come—new points in diagnosis, deftly planned operations, new instruments. Forty years and more ago there were fields of uncut grain where the type of general all-round men, I remember, often discovered or improved. New knowledge I daresay lies everywhere around us, but for the most part ordinary folk now must be just casual gleaners or be industrious and meticulous in a small paddock of their own, if they are therein to find a fresh treasure. For those of us who are left to practise general medicine or surgery, either as consultants or as general practitioners, the field then we must admit is narrower now than forty years ago—many patients go direct to a specialist, there is a kind of magic in the name and they are ready to pay for it—more power to them. Still, even if the field of general work is narrowed (an old time practitioner, of much ability, told me that diseases of the umbilicus were about the only unappropriated maladies left to him), there remains really sufficient and we

ought to try and investigate every case thoroughly first by the older methods of clinical examination. The stethoscope is still an excellent weapon and is probably often as generally useful to decently educated ears as an electro-cardiograph. Palpation and percussion are distinctly informative in the examination of a suspected hydatid cyst—at any rate they are worth trying before invoking an antigen. I still believe that a history of syphilis and the examination of the deep reflexes *et cetera* are more important than making the diagnosis of tabes by the character of the vesical mucosa!

Even when men of special ability devote themselves early in life to the more purely scientific side of professional learning—such bedrock sciences as anatomy, physiology and even pathology—I still think that a sound general knowledge of medicine and surgery is advisable to make their special knowledge of their particular subject alive and useful and not a mere accumulation of facts to be memorized by their students. I do not ask that a professor of anatomy or physiology, as these vast subjects now are, should be a surgeon or a physician—the matter is too wide. But I do expect these men to have sufficient knowledge of the progress of current medicine and surgery sometimes to suggest, help and advise those engaged in the practice of the profession. Past anatomists were often surgeons and although that combination rarely exists at the present day, we have a good example of collaboration in the work of John Hunter—young, very young in years, but old in learning, who in conjunction with Royle has helped so much in a new procedure for the relief of certain symptoms due to neural damage—or of Hughes Bennett whose physiology chair did not in his day prevent him exploring, nay, helped him to explore the then unknown realm of blood diseases. Indeed, a very special acquaintance with physiology and pathology form the ground work on which many of our best observers in clinical work have built their careers as consultants. As William Rutherford used to say in his own inimitable manner: "Ah! My friend, these broken down physiologists always make excellent clinical men!"

The advance of precise knowledge of various diseases makes the subdivision of specialism even more meticulous. We have neurologists, cardiologists, syphilologists and tuberculin experts who do little else than treat the special maladies which these names suggest. I do not yet know what single work will indicate the specialist in diabetes, but probably "Insulinist" will meet the difficulty. As regards heart diseases I think I honour Sir James Mackenzie as much as anyone can for his epoch-making work on that subject and doubly so because he spent years as a general practitioner, just the training which is one of the main objects of this paper to glorify.

Yet, in these later years the flow of cryptic learning which comes from the metropolis of golf, seems sometimes not quite easy to understand and a little unconvincing. But I should not grumble, for I fear it is just my own lack of a scientific mind

which makes these St. Andrews contributions to medicine so dark to me.

There is a curious foible to which specialists and general men alike give way. We dearly love some new thing and run it to death, be it a theory of disease, a new operation or a synthetic drug. Focal infection has its high tide just now and a great advance it is. Yet I fear it has occasionally increased the number of the edentulous on insufficient grounds! I dare say you can think of half a dozen operations which were lauded as the one evangel of hope for as many ills, and they came and went sometimes leaving no small troubles in their track. So also may a wrongly taken or mis-interpreted reading of the blood pressure do infinite harm.

As for fashionable drugs their name is legion. I recollect a very canny sort of Scotch patient, scanning with doubt in his face as he left the consulting room of one of my teachers a prescription he had just received, who was reassured by the professor's butler with the cheery words: "It's aw right; they're aw getting the same the noo!"

I used to teach and I unblushingly repeat myself here, that ultra-modern methods—instrumental, biological, radiological—are nearly always still to be regarded as the adjuvants to diagnosis. Do not let us put the cart before the horse, but rather first go faithfully into the history and physical signs of the patient before calling the special helps to a correct diagnosis. Team work of all kind seems to be the counsel of perfection for us at present, but let the various members of the team play their parts in due order and sequence and avoid beginning the diagnosis with an X-ray or a blood examination, but rather do as all our fathers would have done before sending the patient to the various specialists.

I have lately had my doubts, if indeed the plan of having whole-time directors of medical and surgical clinics in big teaching hospitals is really the best system. I think that the man at the head of such a clinic who is cut off from the broad field of private practice, loses much in which he may learn and from which he may cull much to teach himself and his pupils. Also he loses the stimulus of private practice and may easily become just an official. In our professional studies set lectures will become fewer and rightly so. More personal teaching and I hope smaller numbers to teach will obtain, with more demonstrations in which eye, ear and hand are all joined in the method of instruction. In a medical curriculum I think we try to cram in too much in the time and spend too much of it on subjects where we ask more than is really needed for a licence to practise, and much of which knowledge is forgotten in a short time. Physics and chemistry—vital as they are to the student of medicine—are instances in point in my judgement. Even in anatomy I think too many hours are spent over embryology and too few in proportion over the plain facts of that most essential subject. A student can hardly have too much anatomy. I wish also I could see a way of giving students even more hospital attendance than seems possible just now

within the allotted years. Most of us are not very brilliant persons. Let us be taught a good all-round knowledge of our job—such as a sound properly proportioned allotment of subjects permits in the under-graduate years and so make graduates really deserve what our system of examination purports to guarantee, that they are competent to practise. After graduation the brilliant and steadily industrious as a rule soon sort themselves out and proceed to vaster issues.

No nationalization of medicine nor a less prodigal scattering of bursaries to the unlikely and unlearned nor any socialist schemes of unfried utility will ever utterly repress or ruin the really able and fit and deserving. Spoon-feeding is all very well, but in the republic of medicine, if such doctrines and ways are pushed to their ultimate conclusion, I see nothing but evil to the status and efficiency of the healing art. With such conditions individual effort is discouraged. The desire to do well, to work hard and to undertake research is not likely to be a daily stimulus in a social system, where all men, the idle especially it seems to me, are encouraged to believe and act as if all were equal. We are not all equal and artificial laws will never make us feel so, else all progress will be at an end and we shall indeed "be weary in well-doing." Believe me complete nationalisation of medicine will never be a cure for the present discontents of an over-crowded profession. The public are not ill-served as things are now, but there are in most places far too many of us and I think lately that a good many of those who have started in medicine, are not of the best type to make high-class practitioners. If complete nationalization becomes an accomplished fact, most of us or at least the rising generation of doctors will, I fear, just become State servants who have sold their souls for a mess of pottage at the price of a failing of individual effort and a desire to improve. But I digress on a matter on which you all have made up your minds and so I return to my subject and make an end. And when all is said, it is in the general practitioner that the hopes of the future of our profession still must lie. We may be born in a "twilight sleep home," married at a registrar's, live in a communal flat and be buried from an undertaker's parlour, yet the general practitioner will be with us between whiles. In spite of so much which has been taken from him by the multiplication of specialties, I am sure that there still will remain a field from which attrition can never really make him less necessary in his paramount usefulness to the community. I therefore do not believe that his useful labours will be restricted to the neighbourhood of the umbilicus or to treating "hypopion of the great toe," whatever that malady may be. No, gentlemen, the general practitioner, if he lives up to the ideals of his forebears, will remain in the future as in the past the trusted adviser not only in ills of the body, but often of troubles not of the flesh and so will continue to be the real backbone of the profession.

Reports of Cases.

TWO CASES OF ACUTE PULMONARY OEDEMA.

By RAYMOND T. BINNS, M.B., B.S. (Adelaide),
*Resident Medical Officer,
Adelaide Hospital.*

In both of the cases about to be recorded an attack of acute pulmonary oedema occurred in patients suffering from acute nephritis. In the first patient there was no apparent cause for, or warning of the attack; in the second the symptoms followed the aspiration of the pleural cavity and the occurrence of the condition was anticipated.

Case I.

G.W., a small girl, four years of age, was admitted into the isolation ward of the Adelaide Hospital on May 27, 1924. Her father stated that two weeks prior to this date she had complained of pains in her legs and of headaches. A week later it was noticed that her urine was discolored and that there was some frequency of micturition. Three days before admission she complained of a sore throat and a small lump appeared in the right side of her neck. The following day she had difficulty in breathing which, her father said, seemed to be due to something in her throat interfering with inspiration.

She was one of twins; her twin sister died in infancy of marasmus. She had not had any illnesses before. Her mother suffers from a weak heart.

When the child was admitted her temperature was raised to 38.9° C. (102° F.), the pulse rate was one hundred and sixty per minute and the respiratory rate twenty-four. Her breathing was laboured and stridulous and during inspiration there was retraction of the intercostal spaces. Her pharynx was inflamed, but no membrane was visible. A diagnosis of laryngeal diphtheria was made from the clinical appearance and diphtheria antitoxin was injected. Swabs were taken from her throat, but no diphtheria bacilli were found. The specific gravity of the urine was 1020; much albumin and some blood were present. On microscopical examination pus cells, blood cells, granular and hyaline casts were seen. Her ankles were slightly oedematous.

The condition was regarded as one of acute nephritis complicated by laryngeal diphtheria. From the history it appeared that nephritis was present before the onset of the laryngeal symptoms. In a few days the laryngeal symptoms completely subsided. Urinary examination still disclosed the presence of albumin.

On the eighth day after admission the patient suddenly began to have difficulty in breathing and loud "bubbling" sounds could be heard during inspiration and expiration. She quickly became cyanosed; the respiratory rate became slow and the heart beat rapid. On listening with the stethoscope râles could be heard all over both lungs. Much mucus was coughed up. At the same time the child had convulsions and she was quite unconscious.

A venesection was performed and one hundred and eighty cubic centimetres (six ounces) of blood allowed to escape. She was also given an injection of 0.0006 gramme (one-hundredth of a grain) of atropine and later one cubic centimetre of "Pituitrin." After the venesection breathing became easier and the convulsions soon ceased. The following morning the child was much better and there were very few signs at the bases of the lungs. Subsequently the child's general condition steadily improved and no recurrence of the respiratory distress or of the convulsions has occurred. She is now able to leave hospital apparently a healthy child.

This condition was regarded as one of acute pulmonary oedema occurring during an attack of subacute nephritis.

Case II.

The second case is that of a woman, forty years of age, who was admitted into the Adelaide Hospital suffering from acute nephritis. Four weeks before her admission

she contracted a sore throat, swollen glands in the neck and a few days later a rash on her arms and thighs. The rash disappeared in four days and peeling of the hands, feet and abdomen began later. The patient had evidently had an attack of scarlet fever. When she first got out of bed after two weeks she noticed that her legs were swollen and that her face and eyelids were oedematous. The amount of urine passed during her illness had been much less than normal. She had not received medical attention until four days before she was admitted. She had not had any serious illness before. She was a mother of three healthy children.

The patient was a rather stout, middle-aged woman. On the day of admission her temperature, pulse rate and respiratory rate were within normal limits. There was very slight oedema around the eyes; the glands behind the angles of the jaw were swollen and tender; the throat was inflamed. The only abnormality discovered on examination of the heart was that the second sound at the base was accentuated.

Physical signs in the chest indicated the presence of free fluid in both pleural cavities, extending upwards as far as the angles of the scapulae. No free fluid was detected in the abdomen, but there was considerable tenderness in the region of the kidneys. Both feet were oedematous. The urine contained a high percentage of albumin and some blood. By microscopical examination of the urine blood cells, epithelial and blood casts were detected. The systolic blood pressure was one hundred and eighty millimetres and the diastolic one hundred and thirty millimetres of mercury. The patient's condition was diagnosed as acute nephritis complicating scarlet fever.

On the fifth day after admission the amount of fluid in the pleural cavities had increased to such an extent as to embarrass breathing. Aspiration of the pleural cavities was indicated. Slightly more than a litre of fluid was drawn off from the left side. This temporarily relieved the dyspnoea. Two hours after the aspiration the patient suddenly began to cough and a large quantity of frothy serum was expectorated. The breathing became very rapid and shallow and was accompanied by "bubbling" sounds. The face, lips and extremities became very cyanosed and the patient soon lost consciousness. The pulse rate was very rapid. A venesection was immediately performed and four hundred and fifty cubic centimetres (fifteen ounces) of blood allowed to escape. Atropine and cardiac stimulants were given and also continuous inhalations of oxygen. Two hours after the attack the breathing had become less rapid and quieter and the cyanosis had disappeared and the pulse rate become slower. The patient had evidently recovered temporarily from the attack of acute pulmonary oedema. Three days later, however, the temperature rose to 39.4° C. (103° F.), the pulse rate to one hundred and fifty and the respiratory rate to fifty. She complained of thirst and expectorated offensive sputum. The lungs had now become infected and she succumbed on the following day to the complication of pneumonia.

The attack of acute pulmonary oedema occurred in this case two hours after a paracentesis of the pleural cavity. The immediate dangerous symptoms were relieved temporarily by the venesection.

Acknowledgment.

I am indebted to Dr. A. R. Southwood and Dr. F. S. Hone, Honorary Physicians of the Adelaide Hospital, for permission to publish the notes of these cases.

Reviews.

DIATHERMY IN PNEUMONIA.

DR. STEWART'S book "Diathermy and its Application to Pneumonia" is based mainly on the study of fifty-seven patients suffering from pneumonia of different types observed in a New York Marine Hospital.¹ In thirty-six of

these diathermy was used as an adjunct to the ordinary routine treatment by drugs and serum; of this group 19.4% died. Of the remaining patients submitted to the same general treatment, but not treated by diathermy, 42.9% died. Dr. Stewart remarks that while it is necessary to be chary of drawing definite conclusions from such a small number of cases the results are such as to warrant an extended trial of this method of treatment. Though diathermy does not shorten the course of the disease or prevent relapses, its application is said to give almost immediate symptomatic relief and to initiate a fall of temperature by lysis. These results are explained by Dr. Stewart as follows: "... a centrally located heat of from 110° to 120° F. developed in the affected lung without any cost to the body in instituting this rise of temperature, should have a favourable effect upon the pneumonic process. It was known that this heat would dilate the pulmonary capillaries and lymphatics thus promoting a more active circulation. Perhaps to some extent it might also 'melt' the exudate, thereby increasing the amount of pulmonic ventilation. It was also thought possible that it might inhibit and to some extent destroy the organisms and reduce, through its known analgesic effect, any associated pleuritic pain."

A brief survey of the whole field of medical and surgical diathermy is included, but it is not sufficiently explicit to be of service to those who desire to learn the details of the method and its application.

Dr. Stewart's style is loose and disjointed; there are numerous repetitions and many of the illustrations are quite useless. Material which might with pruning have made an admirable journal article, has been stretched to provide a rather pretentious small book.

AN ENCYCLOPÆDIA OF MEDICINE.

THE eleventh volume of the "Encyclopædia Medica" carries us from potassium bromide to singultus.¹ The most important subject dealt with in the volume is that of pregnancy which occupies one hundred and sixteen pages and is dealt with in ten divisions by various writers. There are numerous illustrations in connexion with the subject. The prostate is given twenty-two pages, psychoanalysis and psycho-therapeutics have ten pages. The puerperium occupies fifty-two pages and is dealt with in five divisions by separate writers. Then come the rectum with thirty-three pages, refraction seventeen pages, retina and optic nerve eighteen pages, retinoscopy nine pages. Rheumatism has forty-four pages. Among the *materia medica* we find salol with twenty-two lines, sopo with twenty-seven lines, sarsaparilla with twenty lines. But if we look for "Salvarsan" we find it dismissed in five lines. This is altogether inadequate and disproportionate. Scabies has eight pages and a coloured plate, scarlet fever twenty-four pages, Schick test five pages, diseases of the sclerotic nine pages and a coloured plate. Diseases of the scrotum and testicles occupy thirty-nine pages. Diseases and injuries of the shoulder occupy twenty-eight pages and are illustrated by many line blocks.

DISEASES OF THE BREAST.

In "Diseases of the Breast" Dr. Willmott Evans sets himself the task of "endeavouring to describe the present state of our knowledge in this subject."² It is a matter for regret that he very soon loses sight of his worthy objective and occupies much valuable space in a frequent

¹ "Encyclopædia Medica," under the General Editorship of the late J. W. Ballantyne, M.D., C.M., F.R.C.P.E. (Volumes I. to VIII.) and Alexander Goodall, M.D., F.R.C.P.E. (Volumes IX. to XI.); Second Edition; Volume XI., "Potassi Bromidum" to "Singultus"; 1924. Edinburgh: W. Green and Son, Limited; Sydney: Butterworth and Company (Australia), Limited; Royal 8vo., pp. 672.

² "The Diseases of the Breast," by Willmott H. Evans, M.D., B.Sc., F.R.C.S.; 1923. London: The University of London Press, Limited; Demy 8vo., pp. 507, with 106 illustrations with 15 in colour. Price: 27s. 6d. net.

¹ "Diathermy and its Application to Pneumonia," by Harry Eaton Stewart, M.D.; 1923. New York: Paul B. Hoeber; Crown 8vo., pp. 226, with 45 illustrations and 15 charts. Price: \$3.00 net.

reference in detail to cases occurring thirty, forty and a hundred years ago. The drawing of a child suckling at an accessory breast situated on the thigh may find a place in a museum of medical rarities, it is hardly worth a full page illustration in a book of this nature.

The author has not hesitated to express strongly his own views on the many problems in this important branch of surgery. It is interesting to note that he believes before long we shall be in possession of the ability to demonstrate the microbic origin of malignant disease. We agree with him that Paget's disease of the nipple is carcinomatous from the very beginning and should be treated by radical operation.

He lays stress on the need for recognition of carcinoma at the earliest possible moment. "If an exact diagnosis is impossible then diagnosis should be made by operation and not by time." Still too often do we find being practised the local removal of the tumour for pathological examination with its delays, its breaking down of protective barriers and its dissemination of cancer cells into the blood and lymph vascular systems. Hence we heartily endorse the author's advocacy of exploratory operation on the breast tumour with rapid microscopical examination and completion of the radical operation if the section is not above suspicion.

The value of X-rays and radium is discussed in the post-operative and inoperable stages. No mention is made of pre-operative X-ray treatment, but surely if this therapeutic measure can avail, in however small degree in the first-mentioned phases of the disease, it must be of benefit in the pre-operative treatment.

Exactly half of the book is devoted to non-malignant affections of the breast and these are fully and clearly dealt with. The chapter on hygiene and diseases of the nipple is a useful guide to prevention and treatment, but reference should have been made to bacteriological examination as an aid to the diagnosis of suspected syphilitic sores.

The work contains many useful hints on practice which are best exemplified by methods of bandaging and strapping the breast, formulæ of dusting powders and ointments, the use of depilatory powder instead of shaving the axilla, dressings for reducing the odour and discharge from malignant ulceration and incisions and drainage of breast abscess.

NEW CONCEPTIONS OF HEART DISEASE.

A SMALL book, "Modern Methods in Heart Disease," by Francis Heatherley, is not intended to be a text-book.¹ Its aim is to put before the student and practitioner the new conceptions of heart disease as to diagnosis, prognosis and treatment. In the book the author does not concern himself with graphic methods of investigation, but deals with the subject on clinical lines alone. For this reason the title seems misleading.

The first chapter is devoted to the thought of the old and the new schools. The tenets of the new school *inter alia* are summarized: (i.) The condition of the valves is of less importance than the condition of the heart muscle. (ii.) Heart failure leads to enlargement of the heart. It is not dilatation which leads to heart failure. (iii.) The primary cause of heart failure is infection and not strain. (iv.) The differential diagnosis of irregularities of the heart beat is very important. The irregularities of the heart are discussed *seriatim*, many practical points in their investigation are brought forward. The author in his description does not require his reader to have an acquaintance with any graphic means of investigation. Chapters are devoted to symptoms, signs, prognosis and treatment of the various heart conditions.

The book contains nothing that has not been said before. The author states in his preface that he was twenty-

five years in general practice when the outbreak of war placed him in the position to study heart conditions. He thus has grafted the new ideas on to his old knowledge and this book is the result. It is useful because it sums up in a small space the main principles of what the author terms the new school. It is written in a free and racy style and can be recommended. It is dedicated to "those who find salvation in compensatory hypertrophy and who fear a well conducted mitral."

PHYSIOLOGY FOR STUDENTS.

THE teaching of practical physiology to students has undergone some change of late years in many medical schools. A book on practical physiology by Cathcart, Paton and Pembrey for the use of students indicates the course the authors consider best for the practical work on the subject.¹

The book consists of two parts. Part I. is devoted to experimental physiology and Part II. to chemical physiology. A number of lessons is set out in each part both for an elementary course and an advanced course.

The aim of the book, as the authors point out, is first to train the student to observe and record the results of experiments he himself performs and to draw his own conclusions. The second aim of the book is to give him a sound foundation for his after study of physiology based on his own experience and not upon the dicta of his teacher and text-books. A student conducting an experiment will often ask if the result he has obtained is right. One of the effects of the teaching on the lines of this book is that the student must accept his own results of an experiment and read his text-book for the explanation. The experiments are well set out and the apparatus required for any experiment is well illustrated by diagrams.

One experiment may be quoted. The student is directed to hold a walking stick vertically with its point on the ground. He then places his forehead on the top and rapidly walks three times round it. Then he raises himself and tries to walk to the door. The result of this simple experiment is well calculated to drive any inquiring mind to the text-book for the explanation.

The book is not intended to be a text-book. There is no more theoretical teaching than is necessary for the proper understanding of the experiment to be performed. As many experiments as possible are done on man. The physiology section consists of seventeen lessons devoted to the special senses, nerve and muscle, the circulation, respiration and digestion. The advanced course for senior students comprises thirty-seven chapters. Part I. is excellent. The elementary course in Part II. (chemical physiology) consists of ninety-pages only. This does not contain enough matter for a medical student's course. A full explanation is not given of the results of the various chemical tests. Chemical equations to represent the reactions should be more freely given. Without sufficient explanation of the theory of the various chemical tests the student merely memorizes them and loses the inner meaning of the subject.

Whilst all may not agree with the adoption of the entire course as laid down, everyone interested in the teaching of physiology will gain some valuable hints from this book.

ENDOCRINOLOGY.

THE medical profession will be grateful to Sir Edward Sharpey-Schafer for re-issuing his Lane Medical Lectures on the endocrine organs with additions to the text and copious illustrations. The book before us whilst labelled "second edition" is really a new work of which the first volume only has appeared.

¹ "Modern Methods in the Diagnosis and Treatment of Heart Disease," by Francis Heatherley, M.B., B.S. (Lond.), F.R.C.S.; 1923. London: Baillière, Tindall and Cox; Demy 8vo., pp. 210. Price: 5s. net.

¹ "Practical Physiology," by E. P. Cathcart, M.D., D.Sc., F.R.S., D. Noël Paton, M.D., LL.D., F.R.S., and M. S. Pembrey, M.A., M.D., F.R.S.; 1922. London: Edward Arnold & Company; Demy 8vo., pp. xii. + 344 and index with 206 figures.

There has certainly been in recent years no dearth of text-books, abstracts, essays and compilations dealing with the ductless glands and some very unscholarly and some very uncritical summaries have been published. We may state at once that this book stands far ahead of its competitors in sound judgement linked with wide erudition.¹ The volume opens with some general considerations such as nature of the active principles, methods of determining function, results of deprivation, the effects following surgical grafting or medical administration and the action on isolated tissues and organs. After this comes a detailed account, anatomical, histological, physiological, pathological and pharmacological of the thyroid, parathyroids and supra-renals. The author has steered a wise course between undue brevity attended with dogmatism and an encumbering wealth of unconnected and unedited detail.

If one criticism is to be made it is that some of the illustrations are not quite up to the level of excellence which is associated with the name of Sharpey-Schafer; but we surmise that the author is not to blame. The book has a good index.

THE CIRCULATORY SYSTEM.

"The Circulation in Health and Disease," by Carl Wiggers, is a valuable work both to the physiologist and the clinician.² The author is well known as a physiologist and as an authority on the graphic registration of the changes in the circulation. The book is a second edition which has been thoroughly revised. It is divided into three sections. The first section is devoted to the circulation in health. It is a *résumé* of the more recent work on the physiology of the heart and the circulation. The optical method of registration of the changes of pressure in the heart and big vessels is described and the facts and data drawn from curves so obtained are discussed. As can be seen later on in the work, the author points to the clinical application of the graphic means at our disposal for the investigation of cardiac lesions. The book in general aims at bridging the gulf between the laboratory worker and the clinician. The author is unbiased in his criticisms. Whilst believing himself from evidence which he produces that the factor responsible for an increased cardiac output is the initial tension of the ventricular muscle fibres, the view of Starling is also put forward that the initial length of the ventricular muscle fibre is the determining factor.

In the second section there are described in detail the various instruments for studying the circulation in man. A new form of transmission sphygmograph is described which is used in connexion with an optical recording capsule. With this it is possible to record the central arterial pulse, that is the subclavian or carotid pulse. From such a record the author determines the duration of the systolic ejection period of the heart. This has a clinical application. The systolic ejection period varies with the heart rate. A lengthening of this period above what is normal for a given heart rate occurs when the heart is unable to do its work efficiently, either because of too great an increased venous inflow or because of too high an arterial resistance. It follows that a lengthening of the systolic ejection period is indicative of a failing heart. A critique of the usual sphygmograph is given. Most sphygmographs are accurate only for time determinations of pulse waves. The height or contour of the pulse wave is not correctly reproduced in them. The factors to be considered are the inherent vibration period of the instrument itself and the degree of damping. If the sphygmograph reproduces the pulse curve accurately, then with

varying pressures of the button on the artery the amplitude only and not the contour of the curve will alter. It is doubtful therefore if the dicrotic notch, as shown by the ordinary sphygmograph, portrays what it is often intended to do. The details of the electro-cardiograph and ortho-diagram are described.

The third section brings us to the consideration of the abnormal conditions which we find in clinical medicine. Hypertrophy, cardio-valvular lesions, alterations in conduction in the heart and so forth are dealt with in turn. A comprehensive bibliography is inserted at the end of each chapter.

The book brings our knowledge of the latest research work up to date. It will be found a valuable work of reference. At times it is highly technical. It can be thoroughly recommended.

THE DUODENAL TUBE AND BILIARY DRAINAGE.

For the past seven years Dr. B. B. Vincent Lyon has utilized the duodenal tube for drainage of the biliary passages and his experiences and conclusions form the basis of a volume entitled "Non-Surgical Drainage of the Gall Tract."³ In this book, however, not only is the author's main thesis discussed, but disease of the biliary tract is considered from many aspects. Commencing with the embryology, histology and anatomy of the liver and biliary system, he next refers to the physiology and pathology of those parts. This section is admirably illustrated with reproductions from standard anatomical works and is so pleasantly written that the use of the terms "cubic centimeter" and "milliliter" alternately may be overlooked. In an excellent chapter on the history of gall tract disease and its management the author concludes by laying stress on the serious and disabling sequelæ of cholecystectomy, as an introduction to the advantages claimed for the author's method of "non-surgical" drainage. This is based on Meltzer's discovery that a solution of magnesium sulphate applied locally to the duodenal mucosa relaxes the sphincter of Oddi, the contents of the biliary tract flowing into the duodenum. By the beginning of January, 1923, Lyon had studied 1,104 cases and performed altogether 7,593 drainages and it is upon this material that the opinions expressed by him are based. The opinions regarding the fundamental principles of the method have provoked considerable antagonistic criticism. Much of the controversy centres around Lyon's differentiation between the "A," "B" and "C" bile, as he terms the successive fractions obtained. His opponents' views receive fair consideration and are answered in detail, for the most part in a convincing manner, but the case for "B" bile must at present be regarded as not proven. Lyon himself urges that if the method is fundamentally wrong, the sooner this is realized and corrected the better and he directs attention to certain of its natural limitations.

The method is set up as: (i.) An additional means of diagnosis of biliary diseases, (ii.) an alternate method of treatment of many types of gall bladder and duct diseases and (iii.) a supplementary method of continuing surgical principles of drainage post-operatively in those patients incompletely cured by surgical measures alone. "Criticisms have been passed on the method by men who have not done it properly," says Professor McCrae in his introduction and this certainly goes far to disarm most critics, for the technique detailed by the author is a most formidable procedure if strictly carried out.

The chapters on diagnosis of biliary tract disease are exhaustive and comprise one-half of the subject matter of the book, while the appended detailed reports of forty-five cases treated by the author's method are full of interest. The care and thoroughness evinced throughout the book are maintained in the excellent general index and bibliography, while the illustrations and specimen case sheets are in the usual American style.

The book should appeal to all progressive medical men.

¹ "The Endocrine Organs: An Introduction to the Study of Internal Secretion," by Sir E. Sharpey-Schafer, LL.D., D.Sc., M.D., F.R.S.; Second Edition; Part I.: The Thyroid, Parathyroids and the Suprarenal Capsules; 1924. London: Longmans, Green and Company; Crown 4to., pp. 185, with numerous illustrations. Price: 15s. net.

² "Modern Aspects of the Circulation in Health and Disease," by Carl J. Wiggers, M.D.; Second Edition, thoroughly revised; 1923. Philadelphia and New York: Lea and Febiger; Demy 8vo., pp. 670, with 204 illustrations. Price: \$7.50 net.

³ "Non-Surgical Drainage of the Gall Tract," by B. B. Vincent Lyon, A.B., M.D.; 1923. Philadelphia and New York: Lea and Febiger; Demy 8vo., pp. 658, with 175 illustrations and ten coloured plates. Price: \$10.00 net.

The Medical Journal of Australia

SATURDAY, AUGUST 9, 1924.

Cancer Research.

IN November, 1923, a special committee appointed by the Senate of the University of Sydney drew up a report on the organization of a programme for cancer research. It was then suggested that an appeal should be made to the public for the sum of £100,000 to enable the University to found a cancer research institute. It was held that £30,000 would suffice for the buildings and equipment and £70,000 for maintenance. The scheme included coordinated work on the biological, physical, chemical, physiological, pathological and surgical problems of cancer. The committee emphasized the paramount necessity for concerted effort as compared with isolated investigation. A further announcement has just been made to the effect that the sum of £10,000 is required at once, in order that the work may be begun. It is proposed to expend this sum on publicity and education propaganda, on research, on the establishment of special cancer departments at the Royal Prince Alfred, the Sydney and the Saint Vincent's Hospitals, on the foundation of a special library, on the formation of a cancer bureau and on the prosecution of any other lines of attack that may be recommended by the committee. It is further announced that research will be initiated as soon as the August examinations have been completed, when five professors forming a committee will be able to devote the necessary time in organizing the work and in guiding those who will be called upon to undertake it. Several senior students and graduates have volunteered to help in this campaign.

This campaign has been widely advertised by the very best means, the spoken word of those most interested in the subject. A press campaign is likely to be started and efforts will be made to guide those responsible for the information published in the daily newspapers to avoid the usual instruments for attracting public attention to a subject,

sensational scares and exaggerated doctrines. The seriousness of the disease or group of diseases is too well known to need enunciation. Our complete ignorance concerning its ætiology and pathogenesis must be admitted. In the next place it is necessary to explain with simple frankness that much research has been carried out in all parts of the world at a great expenditure of money and that the practical outcome of the individual and coordinated investigations has been disappointing. The biological method of attack has been followed at the Imperial Cancer Research Institute under the direction of Bashford and later Murray and simultaneously by many eminent investigators, including Paul Ehrlich. Many important facts have been discovered in connexion with mouse cancer and the immunity to cancer inherent in and acquired by mice. There is no direct or convincing proof of the identity of the disease in mice and malignant disease in man and there is no evidence that the information gained in these ingenious and patient researches applies to the human subject. But every fact even if the association is not immediately apparent, must be welcomed and treasured, especially when we are groping blindly for a foundation for a promising organized attack. The chemical aspect of the cancer problem has received considerable attention and some significant data have been collected. The name of Ernst Freund may be mentioned in this connexion. The physical phenomena have been studied and many valuable observations have been recorded. The amount of work on the histopathology of malignant disease that has been carried out and the amount of experimental work based on cell change is stupendous. All this is important, for when the whole truth is unfolded, each of the previously discovered facts will assist in enabling us to reconstruct a reliable ætiological doctrine. Of far less importance, if indeed it has any value at all, is the work done empirically in the endeavour to find a cure of cancer. The discoveries of so-called cancer organisms are fairy tales without significance. The fads of the dietetic specialists who claim to prevent or cure malignant disease by altering the diet, must be regarded as flights of imagination as fantastic as the tales of the "Arabian Nights."

The public and the medical profession should not assume a pessimistic attitude in regard to the problem because of the very small harvest after so abundant a sowing. The Cancer Research Committee of the University of Sydney is justified in holding a sanguine view, for nothing is more certain but that Nature can be forced to yield her close secret if man is persistent enough, if attacks are planned with skill and ingenuity from many points and if the workers are in possession of all the facts previously discovered.

The public and particularly the contributing portion of the public should be warned that the one important objective in connexion with cancer at the present time must be its aetiology. It is questionable whether the appeal would be justified if it were the intention of those responsible to invest the money collected in powerful X-ray plant which might bring relief to a limited number of sufferers, but which cannot be the means of disclosing the nature of the disease. Similarly it would be opposed to reason to invoke the aid of this organization at its present stage for the purpose of ascertaining the limitations of surgical treatment of the disease. The first and last problem is to understand the disease, to ascertain how it is caused, how it developed and why it attacks many and leaves others living under apparently the same conditions unscathed. Once these questions can be answered, the problem of the prevention of the disease should not be difficult. And if the disease can be and is prevented, there will be no need to discover a cure. In commending the appeal of the Cancer Research Committee to everyone with means, we would wish to emphasize two facts. The first is that no sum of money is too large to invest in a scheme that carries with it good prospects of gaining a mastery over malignant disease, one of the direst foes of the human race. The second is that research workers should aim at contributing knowledge rather than at making a sensational discovery. There is much laborious work to be done and many men and women must make the bricks and place them in position before the structure can be completed. The attempt to build this complicated and elaborate edifice single-handed is mere waste of time and an indication of futile vanity.

Current Comment.

THE PHENOMENON OF ISO-HÆMAGGLUTINATION.

In previous issues we have dealt in some detail with the interesting and important work carried out by Dr. C. G. Guthrie and his co-workers on the mechanism of iso-hæmagglutination. The discovery of a new pair of antigen and immune body (agglutigen and agglutinin) and the recognition of the possibility of further antigens and immune bodies has led to the reconsideration of the groups into which the blood of individual persons may be classed. It is now established that reactions occurring when blood is transfused after it has been ascertained that apparent compatibility existed between the blood of the donor and that of the recipient, when tested by the usual four-group method, are due to the presence in the erythrocytes of a third antigen. In order that disasters may be obviated and that the practical method may be rendered as exact as science can devise it, indirect methods of study of the new antigen and antibody have been employed. While the mechanism of the response to the introduction of the antigen may be described in terms of Ehrlich's side chain theory, the special study of the phenomenon holds out good promise of arriving at a better understanding of the intricate process. Dr. C. G. Guthrie and Dr. J. F. Pessel have turned their attention to the effect of variations in temperature and in time on the combination of the antigen and antibody.¹ In the majority of immunity reactions the process is accelerated by the raising of the temperature and the intensity of increase by prolonging the period of contact. Landsteiner showed, however, that the absorption of normal hetero-hæmagglutination was more complete at lower than at higher temperatures and that the dissociation of the union of agglutinin and agglutigen could be expedited at higher temperatures. He also demonstrated that auto-hæmagglutinins at times present in the blood of animals could be bound at low temperatures, but were released at temperatures of from 18° C. to 20° C.. Ottenberg has shown that erythrocytes kept in the ice box over night were capable of absorbing considerably more agglutinin from serum than would be required to produce complete agglutination of the cells employed. Further study has proved that the acceleration and increased completeness of the action at low temperatures are dependent on an alteration in the physical properties of the cell influencing the capacity for adsorption. It is impossible in this place to enter into a discussion of the complex question of adsorption of a colloid material like globulin to which agglutinin is held to be attached or to be part and the surface of such a body as a red blood corpuscle. A great deal of controversy has taken place on this and analogous subjects, notably by Arrhenius, Madsen and the members of the Frankfurt school. That it is not a question of pure physics may be gathered from the fact that

¹ *Bulletin of the Johns Hopkins Hospital*, February, 1924.

chemical variations in the cells are associated with corresponding variations in agglutinability. Dr. Guthrie and Dr. Pessel conceived the idea that while a powerfully agglutinating serum yields a satisfactory response in ordinary titres at incubator temperature (37°C .), weaker sera might be regarded as non-agglutinating if tested only at this temperature. Even if such a serum were tested in an undiluted state, clumping might occur only at a low temperature. They therefore selected the blood of ten individuals and carried out cross agglutination tests with the usual standards. The tests numbering one hundred were controlled immediately, after one hour in the incubator, after two hours in the incubator and on the following morning after the tubes had been kept at "room temperatures" throughout the night. Once only was an anomalous result encountered. No agglutination was observed immediately or after one or two hours in the incubator. On the following morning, however, it was found that agglutination had occurred. The varying factors were time, light and temperature. The test was therefore repeated under circumstances which enabled the observers to exclude light as a determining factor. Close study yielded the information that maximum agglutination occurred at 12.5°C ., that it was more extensive within the same time at 25°C . than at 37°C . and that lengthening the time of reaction made less difference than lowering the temperature. The authors therefore urge that all blood grouping tests should be carried out at low, constant temperatures. They regard the use of the term "room temperature" as particularly undesirable. It may vary within wide limits. They also hold the opinion that confusion from auto-agglutination need not be feared, since this can be controlled without difficulty. In their experiments they have apparently not tested at many temperature levels nor have they published any records to show the variations in intensity at given temperatures with varying periods up to twelve hours. It is certain that maximum agglutination will occur up to twelve hours. It is certain that maximum agglutination will occur at a given low temperature and that a definite minimum time will be required to enable the maximum agglutination to manifest itself. No doubt these tedious yet necessary experiments will be performed.

THE ORIGIN OF BILIRUBIN.

In our issue of March 8, 1924, reference was made to the work of Rich in regard to the origin of bilirubin. It will be remembered that Whipple and Hooper carried out a series of experiments by which they sought to prove that bilirubin could be formed in the tissues and that the liver was not always necessary for its appearance. Rich introduced laked blood corpuscles into the circulation of dogs from whom the liver had been completely removed and failed to find any trace of bilirubin in the circulation later on. He also carried out an investigation into the methods that had been used by Whipple and Hooper and found that they had

not been successful in eliminating the liver from the circulation in their experiments.

Reference has again been made to this subject by Dr. Ella H. Oppenheimer.¹ Dr. Oppenheimer refers to work published by Jones and Jones in 1922. These observers claimed that hæmoglobin could be changed into bilirubin in the larger vessels, capillaries and tissue spaces of an isolated extremity without the intervention of the liver. They worked on a patient with paroxysmal hæmoglobinuria and isolated an arm from the general circulation by means of a sphygmomanometer arm band adjusted so as to maintain a pressure higher than the systolic blood pressure. Local hæmolysis was induced by immersing the arm in iced water. Thirteen minutes after the induction of hæmolysis the serum was dark yellow and gave a reaction to the Gmellin test for bile pigment.

Dr. Oppenheimer decided to test the results claimed by Jones and Jones. She isolated completely the extremity of a dog from the circulation in an ingenious way. The aorta and inferior vena cava were dissected just above their bifurcations and ligatures were placed under each so that they could be quickly tied. An incision was made through the skin and subcutaneous tissue in each thigh in order to stop any collateral circulation through the cutaneous vessels. Laked red blood corpuscles were then introduced into the jugular vein and two minutes were allowed to elapse in order to allow the hæmoglobin to circulate thoroughly. The ligatures round the vena cava and the aorta were then tied. In two instances the muscles of the thigh were cut through to the bone and the femurs fractured to insure the absence of collateral circulation. Small quantities of blood were removed at short intervals up to several hours and tested by the Van den Bergh test. Adequate controls were used. In no instance was a reaction produced to the Van den Bergh test with blood from the isolated limb. Dr. Oppenheimer states she believes as a result of her experiments that transformation of hæmoglobin into bilirubin would not occur in the vessels of a normal individual if the extremity were completely isolated from the general circulation. If the transformation were possible, it would be necessary to assume that the blood vessels of the paroxysmal hæmoglobinuria differed in function from those of normal individuals or else that there was fundamental difference between the bilirubin-forming potentialities of the vascular endothelium of the dog and man.

Dr. Oppenheimer points out that the conclusions of Jones and Jones are based on a single observation and states that it is important that further studies should be carried out on patients of this type. She adds that up to the present there exists not a single experiment or observation which demonstrates the formation of bilirubin within the circulation outside the liver in the normal animal or man. Her conclusion also is justified that further experimental evidence must be accumulated before the question of the normal site of origin of bilirubin can be regarded as settled.

¹ Bulletin of the Johns Hopkins Hospital, May, 1924.

Abstracts from Current Medical Literature.

THERAPEUTICS.

"Mercurochrome."

H. H. YOUNG AND J. H. HILL (*The Journal of the American Medical Association*, March 1, 1924) report a number of cases in which septicæmia and local infections have been successfully treated by intravenous injections of "Mercurochrome—220 Soluble" and of gentian violet. They quote Hill and Colston who showed that after the intravenous injection of "Mercurochrome" in rabbits the urine became bactericidal or strongly bacteriostatic for *Bacillus coli* in about five hours and the blood became strongly bacteriostatic for *Bacillus coli* in fifteen to forty-five minutes. "Mercurochrome" was injected intravenously in doses of five milligrammes per kilogram of body weight (1% solution) into patients suffering with *Bacillus coli* septicæmia, staphylococcus septicæmia, retro-petitoneal abscess, chronic cystitis, pyelitis and other local infections. In a number of instances complete recovery occurred, rapid improvement following the first injection. In some instances more than one injection was given, increased fever and rigors frequently followed the injection, but were rapidly succeeded by a fall to normal and improvement in the general condition. Gentian violet was injected in doses of four milligrammes to seven milligrammes per kilogram of body weight into patients suffering with cystitis. It was also used in staphylococcus septicæmia in an infant with multiple abscesses, in staphylococcus septicæmia with multiple osteo-myelitis and staphylococcus septicæmia in *diabetes mellitus*. Recovery took place in all instances, but in the diabetic subject the condition was improving when the injection was given. In the others the condition was resistant to other treatment and the patients' condition almost hopeless before injection. The authors cite cases in which recovery from streptococcal infections followed injections of "Mercurochrome," but state that the streptococci appeared resistant to gentian violet.

The Treatment of Asthma and Hay Fever.

W. W. DUKE (*The American Journal of the Medical Sciences*, November, 1923) states that the numerous manifestations of allergy, for example asthma, hay fever, the dermatoses, urticaria and angio-neurotic oedema, may be treated in five different ways. The first is the avoidance or removal of the specific cause. When practicable, this is the best method. The cause may be pollen or other products of vegetation, food, animal emanations, drugs, house dust, smoke, bacteria (as in scarlet fever, rheumatic fever and septic foci), therapeutic

sera, light or any combination of these causes. In the second place, if it is impossible to discover the specific substance primarily responsible for the manifestations of allergy, removal of certain contributory causes may give the patient partial or complete relief. Thus attention may be directed to the treatment of infections in the upper respiratory tract which in some individuals invariably precede attacks of asthma; or to the elimination of dust, irritating vapours or perfumes which cause mechanical and not specific irritation; or to the necessity of living in a dry climate; or to the correction of pathological defects in the nose or gastro-intestinal tract which give rise to pathological reflexes. The third line of treatment is specific protein therapy and is to be chosen when the specific cause is known, but cannot be conveniently avoided, for example, in the case of sensitiveness to the common pollens and to cooked egg, milk or wheat. The author is of opinion that the more consistently pollen treatment is used, the better the result will be and that if a patient is treated thoroughly with pollen subcutaneously and intranasally, a bad result should make the practitioner suspect an error in diagnosis. When the specific cause of illness is unknown or cannot be removed or treated specifically, the fourth method, non-specific protein therapy, is worthy of trial. This can best be accomplished by the injection of colon bacilli subcutaneously or in very small doses intravenously. Lastly, sympathetic remedies may prove useful. Adrenalin, "Pituitrin," and atropine are well adapted for emergency use while the more lasting methods of treatment are being instituted. The immediate effect of "Pituitrin" is usually not as definite as that of adrenalin, but it yields a longer period of relief.

Quinidine.

J. H. MUSSEY (*Annals of Clinical Medicine*, January, 1924) discusses the value of quinidine in the treatment of cardiac irregularities. He states that treatment of these other cardiac irregularities with quinidine has rarely been mentioned by other authors. He considers that quinidine is valuable in the treatment of paroxysmal tachycardia, extra systoles and paroxysmal auricular fibrillation. One of the main reasons why quinidine has not been more widely used is that many writers have laid stress on the dangers which may attend its use. The author considers that these dangers have been much exaggerated. Whereas quinidine is a poison and may have dangerous effects, the same may be said of many if not all drugs used in medicine. Quinidine has been used for a number of patients suffering with extra systoles with good results in 60%, either the disappearance of extra systoles or diminution in the number of extra systoles occurring. Instances are quoted in

which the drug was used without ill-effects in doses of 0.2 gramme to 0.75 gramme thrice daily in the treatment of extra systoles and paroxysmal auricular tachycardia. The dangerous effects of quinidine are obtained mainly in treating auricular fibrillation when clots formed in the auricle during fibrillation are dislodged on the resumption of normal contractions of the auricle.

Mercury.

R. V. A. LEE (*The Journal of the American Medical Association*, November 24, 1923), states that mercury has fallen into disfavour as a therapeutic agent for diseases other than syphilis. Formerly it was used in the treatment of many other diseases, especially yellow fever and tropical affections. Recently Veckl and others have again recommended it for influenza and certain acute conditions. Administration by mouth, as judged by excretion curves, is an uncertain method. Usually very little is absorbed. Inunction provides a steady and reliable although slow method of administration. The excretion curve is often slow to rise, but can be kept constant from day to day when a satisfactory level is reached. Absorption can be quickly stopped when the first symptoms of mercurialism appear. Treatment by intra-muscular injection is more accurate and reliable, but the choice of the preparation used is of the utmost importance. The use of calomel and mercurial oil injections is illogical and dangerous. The depôts established by the lack of absorption may be a long continued source of mercury, but they constitute a danger by reason of sudden massive absorption which may take place as the result of trauma or violent exercise. The soluble salts are quickly absorbed and easily controlled, but painful when injected into the muscles. Intravenous administration is suggested as a method which is devoid of some of the objections to the other modes of administration. However, it presents some danger from embolism, although many thousands of injections of the cyanide were given in the French army without serious accidents. The mercuric salts are very prone to obliterate the vein used for injection. Nixon has suggested that this can be avoided by withdrawing blood into the syringe in which the mercuric chloride solution is contained, thereby causing a precipitation of the albuminate. This, being soluble in an excess of serum, is re-dissolved when more blood is withdrawn and mixed with it. Then the whole amount may be injected without causing obliteration of the vein. Various protected colloidal compounds have also been recommended for intravenous use, but the claims of their proponents for innocuousness and high effectiveness are not justified. New synthetic mercurial compounds ("Mercurophen," "Mercurochrome—220 Soluble" and "Flumerin") have yielded excellent results, but a precise statement as to their effectiveness is not yet possible.

UROLOGY.

Circulatory Changes in Renal Diseases.

F. HINMAN AND D. M. MORISON (*Journal of Urology*, February 1924), have carried out a comparative study of the changes which take place in the arteries of the kidneys in the course of hydronephrosis, renal tuberculosis and congenital polycystic disease respectively. The specimens were obtained at operation or autopsy. The arteries of the specimens were irrigated with normal saline solution and then injected with a 60% barium sulphate suspension in gelatine at a pressure of two hundred and fifty millimetres of mercury. After fixation in a "Formalin" solution stereoscopic skiagrams were taken. The barium injection did not interfere with subsequent microscopical study of sections. In the normal kidney injected thus the thick interlobar arteries were well seen running out radially between the lobes (pyramids). Running across the base of each pyramid was the thinner arcuate artery, while running radially out to the capsule from the arcuate arteries could be seen the extremely fine interlobular arteries. The latter appear as a delicate radial striation in the skiagram and the presence or absence of this striation is an indication of the amount of functioning cortex present. In the renal type of hydronephrosis the distending calyces press on the pyramids and cause shortening and tortuosity of the *arteriae rectae* of the medulla and the fine interlobular vessels in the cortex. Later, the calyces bulge so much that they stretch the large interlobar and the smaller arcuate arteries. These elastic vessels, being stretched overmuch, are constantly attenuated. Following this the fine interlobular vessels become more or less completely obliterated and there is a corresponding absence of the cortical striation in the radiogram. In the ordinary ulcero-cavernous type of renal tuberculosis the vessels in the immediate vicinity of a tuberculous focus develop *endarteritis obliterans*. An area of non-injection thus appears in the "barium skiagram." Displacement of the main vessels, as described above for hydronephrosis, only occurs typically where the neck of a calyx becomes obliterated by reactionary fibrosis and causes a localized distension, but the change is seen also in a minor degree around areas of necrotic excavation and cavity formation. In polycystic kidney the larger trunks show little departure from the normal arrangement. In the finer (interlobular) vessels compression changes occur owing to the presence of the cysts.

Urinary Antiseptics.

H. H. YOUNG (*Journal of Urology*, January, 1924) publishes a résumé of the work done on urinary antiseptics during the past five years at the Brady Urological Institute.

Amongst the new mercurial antiseptics, three have been found very useful, namely "Mercurochrome" which is non-toxic, non-irritating and very penetrating; "Meroxyl," also non-toxic, non-irritating, probably less penetrating, but much more germicidal, and "Flumerin" which is the least toxic and irritating, but not at all toxic for the ordinary bacteria though remarkably so against the spirochæte and trypanosome. "Meroxyl" may be injected into the urethra in a strength of one in two hundred. A one in ten thousand solution kills *Bacillus coli* in one minute, thus giving a therapeutic factor of 50. "Mercurochrome" may be injected into the urethra in a strength of one in one hundred. A solution of one in two hundred is required to kill *Bacillus coli* in one minute, giving a therapeutic factor of only 2. But, owing to the great penetration of "Mercurochrome" and its lasting effect, it is probably more valuable than "Meroxyl." Against the gonococcus "Meroxyl" is again superior in cultural experiments, but only five times as strong as against twenty-five times where the colon bacillus is concerned. "Argyrol" shows a high therapeutic factor owing to the fact that it can be used in high concentration in the urethra, bladder and kidney, but it is doubtful whether these colloidal drugs with large molecules are as penetrating as dyes. Nitrate of silver, always considered the bedrock of genito-urinary practice, has retained its position although it has no penetrating qualities. This is because the pronounced reaction it sets up produces hyperæmia and thus gives results not to be explained by germicidal activity. In infections of the lower urinary tract in the male prostatic and vesicular massage, urethro-vesicular irrigation with one in one thousand "Meroxyl," followed by instillation of 1% "Mercurochrome" solution into the prostatic urethra is advised.

Ureteral Obstruction and Infection.

CLINTON K. SMITH seeks to establish definite doctrines concerning the pathology of ureteral lesions other than calculus, tuberculosis and malignant disease (*Surgery, Gynecology and Obstetrics*, April, 1924). He recognizes three forms of ureteral obstruction, abnormally small calibre of part of the whole of the ureter, a congenital condition, stricture of the ureter and ureteral kink. The first condition need not produce any symptoms, unless complicated with congestion of the lining mucosa. The second form, namely stricture, is held to be primarily a congenital condition, but the immediate cause of urgent symptoms is usually infective and inflammatory. The author agrees with the suggestion that stricture of the ureter is the result of a focal infection, but he insists on the thesis that the congenital narrowing of the tube is the factor that determines the site of the focal metastasis. He describes a form of

obstruction of the ureter dependent on pressure from without. Inflammatory processes involving the seminal vesicles are common causes. Lastly he deals with kinks as causes of obstruction. Here again he is convinced that the condition is primarily congenital, possibly a vestige of the sausage-like fetal ureter. He insists on the importance of a thorough examination and an exact diagnosis. If handled early ureteral catheterization suffices to render the passage patent and thus to avoid infection. In regard to infective processes of the ureter he finds that in the majority of cases it is associated with chronic infections of the urethra or that it is metastatic from distant foci. Obstruction and stasis are remote factors. Ureteritis usually occurs in the lower segment and is manifested by pain and dysuria. It may affect the middle portion. He describes the changes resulting from the infection and points out that unless of long standing, dilatation of the ureter usually suffices to remove the obstruction and stasis and to cure the infective process. If neglected the kidney and ureter become more and more damaged, while the organs on the opposite side take on an increasing amount of work. He refers also to the so-called renal counter-balance in which repair takes place on the damaged side.

Unilateral Fused Kidney.

RALPH L. DOURMASHKIN (*The Journal of the American Medical Association*, June 21, 1924) reports the seventh case on record of true unilateral fused kidney. The patient was a man, aged twenty-one years, who consulted another doctor on account of pain in the sacral region and in the right lower quadrant of the abdomen. Appendicectomy and repair of a slight right inguinal hernia were carried out. Later he complained of heaviness in the lower part of the abdomen and at this time he noticed a lump low down on the right side. The diagnosis of dropped kidney was made and a laparotomy was performed. The radiologist reported that both kidneys were in their normal places. At the operation a large mass was discovered behind the peritoneum on the right side. It was multi-lobular and partly fixed to the posterior abdominal wall. Nothing was done. The author then examined the patient by urological methods. The bladder was normal and the ureteric orifices were in their natural positions, small and slit-like. Ureteral catheters passed up to the kidneys through both. The urine from the right side was normal, while that from the left contained albumin, diminished urea and a few casts. The function of each kidney was determined by the phenol-sulphone-phthalein test. There was diminished output of the dye from the left side. A pyelogram revealed that both kidneys were on the right side and were fused into one irregular, lobulated mass. Functionally they were obviously distinct. The left ureter crossed the vertebral column at the level of the fifth lumbar vertebra.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on June 6, 1924, DR. D. GIFFORD CROLL, C.B.E., the President, in the chair.

Specialists and General Practitioners.

DR. R. SCOT SKIRVING who was welcomed by the President, read a paper entitled "Specialists and General Practitioners: Their Education and Relation to Each Other" (see page 137).

A hearty vote of thanks to Dr. Scot Skirving was carried on the motion of Dr. LOCKHART GIBSON seconded by Dr. WILTON LOVE and supported by Dr. W. N. ROBERTSON, C.B.E., DR. A. JEFFERIS TURNER, DR. G. P. DIXON, C.B.E., and DR. J. MOWBRAY THOMPSON.

Sir George Syme.

On the motion of DR. A. H. MARKS, C.B.E., D.S.O., seconded by DR. W. N. ROBERTSON, C.B.E., it was resolved to convey the congratulations of the Branch to Sir G. A. Syme on the honour of knighthood which had recently been conferred upon him.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Royal Prince Alfred Hospital, Sydney, on June 12, 1924, DR. ANDREW DAVIDSON, the President, in the chair.

Tumour of the Kidney.

DR. GEORGE ABBOTT presented a specimen of a kidney containing a hypernephromatous tumour. The patient had first been seen in January, 1923. He had then been forty-eight years of age. He had stated that he had passed blood *per urethram* fifteen months previously. The bleeding had lasted for three days; he had not noticed any bleeding since. His bladder had been examined by means of a cystoscope and he had been told that his left kidney was probably tuberculous. An X-ray examination had been carried out, but no abnormality had been discovered. On admission it had been found that he was very anæmic. A large mass had been discovered in the left hypochondrium. Dr. Sinclair Gillies had examined the patient at Dr. Abbott's request. They had both come to the conclusion that there was probably a renal growth, such as a hypernephroma. Dr. Tebbutt had made a blood examination and had reported that the patient was suffering from a secondary anæmia. The tumour proved to be a hypernephroma. It had been removed on February 20, 1924. He had made a rapid recovery after the operation and the anæmia had disappeared, his weight had increased and he seemed well.

In May, 1924, he had again consulted Dr. Abbott on account of pain in the back and along his thighs. Dr. Edwards had made an X-ray examination and had reported that there was advanced destruction of the third lumbar vertebra, probably by some malignant growth. Dr. Abbott had exhibited the specimen on account of the development of the secondary deposit, which had not been investigated.

Dr. Abbott then showed a boy from whom he had removed a very large myo-sarcoma of the kidney on June 23, 1923. The specimen was also exhibited. He had remained well nourished and apparently in excellent health.

Appendiceal Calculus.

DR. ABBOTT'S third specimen was an appendix containing a calculus. The patient was a woman, aged fifty-five years. The patient had suffered from symptoms pointing to urinary trouble and had undergone a cystoscopic examination by a leading surgeon who had been unable to pass a catheter up the right ureter. A radiologist had reported that there was a large shadow overlying the right side of the sacrum, just below the sacro-iliac synchondrosis. He was of the opinion that the shadow was

due to a stone in a displaced ureter, though he pointed out that such a shadow might be caused by a calcified fibroid. At the operation on May 28, 1924, the ureter had been explored extra-peritoneally and had been found to be lying beside a hard swelling with intra-peritoneal attachments. The peritoneum had been opened and a very large appendix had been found, communicating at its distal extremity with the rectum at the bottom of Douglas's pouch. In the appendix immediately above the communication with the rectum was a *cul-de-sac* containing a large calculus.

Hydatid of the Lung.

DR. ABBOTT also showed a specimen of a lung containing a hydatid cyst. The patient had been admitted with symptoms, physical signs and radiographic findings pointing to one or more hydatid cysts in the lung. There was a history of a hydatid cyst having been removed from the liver (or lung) four years previously. At that time she had almost died from hæmorrhage. An operation had been performed on April 2, 1924. A portion of a rib had been removed. Some fluid had been evacuated from the pleural cavity which was partly shut off in its posterior segment. The pleural cavity had then been opened and the lung palpated. Hydatid fluid had been withdrawn through an exploratory needle. Sinus forceps had then been introduced along the track of the needle and an opening made with the forceps into the cyst cavity. The cyst had been removed and a tube inserted into the cavity. The lung had been allowed to fall back and partly to collapse. There had been practically no hæmorrhage. The patient had been very well after the operation, but a rise of temperature had occurred later. A skiagram had revealed an opacity in the lung and the presence of pus had been demonstrated by an exploring needle. A second operation had then been undertaken, when another hydatid cyst which was suppurating, had been opened and drained through an incision behind and below that made at the first operation. Her convalescence had been uneventful.

Pituitary Tumour.

DR. ABBOTT and DR. SINCLAIR GILLIES presented a patient on whom Dr. Abbott had operated successfully for a pituitary tumour. The case will be reported in full in a subsequent issue.

Lympho-Sarcoma of the Axilla.

DR. H. R. G. POATE showed a patient, aged sixty years, who had come to the hospital in July, 1922, on account of a lump in the axilla which had been there for three months. The mass had been removed. It had shelled out easily. The mass had extended high up into the axilla. A pathological examination had been made by Professor D. Welsh who had reported that it was a new growth of a sarcomatous type, possibly arising from the endothelium of a lymphatic gland. Within ten days a recurrence had appeared in the axilla and within fourteen days there were two masses of the size of a hen's egg. X-ray treatment had then been instituted. Dr. Poate reported that this treatment had done no good at first. He had expressed the opinion that the expectation of life would not be more than six months. The patient had then been given arsenic in gradually increasing doses up to 0.6 cubic centimetres (ten minims) of the *liquor*. Within three months the whole of the mass had disappeared. In April, 1924, a new swelling had appeared in the left groin and the right testicle. Later both testicles had increased in size and the mass in the left groin had become larger. One dose of X-rays had been applied and the patient had again been given arsenic. The mass in the groin had disappeared and the left testicle had receded to its normal size. The right testicle had remained large.

Dr. Poate pointed out that the question of the diagnosis of Hodgkin's disease had to be taken into account. The section was unlike that of a lymphadenoma, while the clinical course was suggestive of that disease, especially on account of the way in which it had responded to arsenic.

Ulcer of the Hand.

DR. E. H. MOLESWORTH discussed the case of a woman, aged forty-five, who had been sent to him by Dr. David Thomas, of Manly, for treatment of a large ulcer involving

almost the whole of the metacarpal region of the hand. The patient had been in the Manly Hospital for two months with alternate improvement and retrogression. The pathological report indicated that the lesion was a tuberculous ulceration. On admission there had been a large, indolent ulcer with weak granulations, spreading toward the thumb, with a flabby, undermined edge. There had been no noticeable infiltration, except where there was some warty heaping up, somewhat like *tuberculosis verrucosa cutis*. Some cicatrization had been seen toward the ulnar side of the hand. A second pathological examination had been made on admission to the Royal Prince Alfred Hospital and much to the surprise of everyone, the result had been a verdict of squamous epithelioma. A protest against this diagnosis had resulted in a further examination. This time the pathologist held that the tissue examined seemed to be inflammatory, but that re-examination of the first specimen had confirmed the opinion that it was malignant. Before the receipt of the second report the ulcer had completely healed. The healed hand was demonstrated at the meeting. The dressings used in the treatment had been simply normal saline solution compresses and plain gauze. No antiseptic had been used nor had any X-ray or radium treatment been employed. This had been done in order not to cloud the issue. The cicatrization could be shown to be due to natural processes and not to the therapeutic effect of radiation on epitheliomatous or tuberculous tissue.

The divergence of the pathological diagnosis from the clinical was so great that the appearance of the ulcer would not permit acceptance of the pathological finding. Had the latter been accepted as the correct diagnosis, amputation of the hand would have been rendered necessary. The case had been recorded principally to emphasize the necessity of taking clinical as well as histo-pathological evidence into consideration and of not giving undue weight to the latter.

Congenital Syphilis with Spastic Paraplegia.

DR. A. J. COLLINS, D.S.O., introduced a girl, eleven years of age, who was suffering from congenital syphilis and spastic paraplegia of her legs. There was no family history suggestive of parental syphilis. Her mother had stated that the child had had a brownish rash at the age of four months; she had commenced to talk at the age of twelve months, but had not walked until she was two and a half years old. She had had difficulty in walking from the first. When she was five years of age a squint had developed in the left eye. In 1921 she had had diphtheria, but no complications had supervened. On examination it had been found that the pupils were of medium size and did not react to light or accommodation. She had a paralysis of the left external rectus muscle. According to Dr. R. G. Waddy, chorioiditis and consecutive optic atrophy were present. There was no loss of power in the upper limbs, although the tendon reflexes were exaggerated. There was considerable increase in the plastic tonus of the muscles of the lower limbs with definite increase in the tendon reflexes. There was *talipes equinus* of the left foot and *talipes equino-varus* of the right foot. There were no symptoms referable to the bladder, no loss of sensation. There was obstinate constipation. Both the blood and the cerebro-spinal fluid yielded a reaction to the Wassermann test. Dr. Collins stated that he was at a loss to account for the distribution of the lesion. The condition of the limbs could be explained by the assumption of a sclerosis affecting the pyramidal tracts. The affection differed from Erb's spinal paralysis by the absence of symptoms referable to the bladder and great increase in plastic tonus.

Tabes Dorsalis.

Dr. Collins next presented a man, aged fifty-three years. This man was suffering from typical *tabes dorsalis* with Argyll-Robertson pupils, absent tendon reflexes, lightning pains and considerable loss of deep sensibility. He was unaware of having contracted syphilis. His father had died from the same disease. Dr. Collins was presenting him for the purpose of promoting a discussion on the best method of treating *tabes dorsalis*. It was well known that meningo-vascular forms of syphilis affecting the

central nervous system responded readily to anti-syphilitic remedies administered through the ordinary routes. The so-called parenchymatous variety of neuro-syphilis, however, was extremely resistant to this form of medication. At a meeting of the Neurological Section of the Annual Meeting of the British Medical Association (see *The British Medical Journal*, October 7, 1922, page 621) Sir J. Purvis Stewart had pointed out in explanation of this difficulty that the capillaries in the central nervous system were separated from the neural elements by perivascular lymph spaces which were occupied by cerebro-spinal fluid. To obtain the desired therapeutic effect it was necessary to make the bactericidal drug pass from the blood to the cerebro-spinal fluid. Stewart and others had claimed that the chorioidal plexuses which secreted the cerebro-spinal fluid, were impervious to arsenic and mercury, although this opinion was not universally held. The treatment of his patient had been based on the plan of Hoefel. It had consisted of the intravenous injection of 0.9 gramme of "Novarseno-billon," followed thirty minutes later by the withdrawal of forty cubic centimetres of cerebro-spinal fluid. He hoped that the "Novarseno-billon" could thus be induced to pass through the chorioidal plexuses before it had been disintegrated into simpler arsenical salts. After only four injections the lightning pains had disappeared, but no importance could be attached to this. They knew that the origin of lightning pains was in the dorsal nerve roots and their ganglia which could be influenced by intravenous medication without subsequent lumbar puncture. Colonel Harrison, of Rochester Row, had been emphatic on this point and had used a silver compound of "Salvarsan."

DR. SINCLAIR GILLIES regretted that he had not known that Dr. Collins was about to raise the question of the treatment of locomotor ataxy, as he, the speaker, had treated a considerable number of patients during the past six years by the method of injecting "Novo-arseno-benzol" intravenously and twenty minutes later withdrawing some cerebro-spinal fluid by lumbar puncture. The failure in treating locomotor ataxy and general paralysis of the insane appeared to arise in the difficulty in finding drugs that would penetrate the chorioidal plexus and thus reach the spinal fluid. About 1914 it had been shown that, though the chorioidal plexus usually blocked the passage of arsenic, in 10% of cases it allowed its passage. This had given rise to the idea that such passage might be effected by causing the chorioidal plexus to secrete fluid under stress, as would be the case when the fluid was allowed to escape while drugs were circulating in the blood. The results seemed to be satisfactory in regard to the arrest of symptoms. In several instances the cerebro-spinal fluid which had previously yielded a Wassermann reaction, no longer did so. It should be recognized, however, that caution should be exercised in interpreting results from any form of treatment, owing to the irregular course of the disease and to the tendency to spontaneous arrest and remission of symptoms. It seemed to him that it was the most rational and promising method of treating patients with this disease.

DR. RALPH NOBLE referred to the technique of cisternal puncture and asked the question whether "Salvarsan" did any good, even if it were directed into the spinal theca. Bayliss had pointed out the colloidal properties of brain and the physical condition of the drugs introduced were incompatible. He also asked whether the method of giving salt by mouth to reduce the cerebro-spinal fluid pressure would not have the same result as the withdrawal of fluid by lumbar puncture.

DR. C. B. BLACKBURN, O.B.E., held the opinion that intrathecal medication was of small value in the treatment of *tabes dorsalis*. The patients whose blood reacted well to the Wassermann test, responded well to treatment. He favoured intravenous medication.

DR. H. J. CLAYTON said that in treating syphilis of the central nervous system, including *tabes dorsalis*, he had for three or four years employed the method of the intravenous injection of arsenic and mercury and the removal of from thirty to forty cubic centimetres of cerebro-spinal fluid at the same time. The results had been encouraging, the process in some instances seeming to

have been arrested. Remissions, however, were so common that it was hazardous to express an opinion whether the improvement was *post hoc* or *propter hoc*.

Sarcoma of the Inguinal Glands.

DR. ST. J. W. DANSEY read some notes for Dr. J. L. McKelvey of the clinical history of a plumber, aged forty-two years, who had had a lump in his left groin for about twelve months. The lump had not been painful; it had been the size of a pigeon's egg, hard and immovable. During the course of the twelve months it had remained about the same size. About the middle of April, 1924, it had increased in size and on June 4, 1924, when he had been admitted to the Royal Prince Alfred Hospital, it was about the size of a hen's egg. Other lumps had appeared in addition to the original one. The latter had remained immovable, hard and not tender. During the six weeks prior to admission the left thigh and leg had become much swollen and had ached a great deal after exercise. Oedema had been noted. The patient was a native of Queensland and had spent a great deal of time in the northern portion of that State. On admission it had been found that there was much oedema of the whole of the left thigh and leg of both venous and lymphatic types. The girth of the left thigh was 62.5 centimetres (twenty-five inches) and that of the left calf forty-five centimetres (eighteen inches). The girth of the right thigh was 47.5 centimetres (nineteen inches) and of the right calf 36.25 centimetres (fourteen and a half inches). The original tumour was situated over the course of the upper part of the femoral vessels, just below Poupart's ligament. It was rounded, moderately hard, about the size of an egg and not tender. There was a second tumour similar to the first, just above Poupart's ligament and a third one in the left iliac fossa, over the line of the iliac vessels. Both the inguinal tumours were masked by oedema. There were further a small nodule about the size of an almond just below the left side of the neck. The left axillary glands were also enlarged. The right axillary and cervical glands were not appreciably enlarged. No enlargement of the mediastinal glands had been made out by percussion. The serum did not react to the Wassermann test. No filaria had been detected in the blood. The bones had appeared on radiological examination to be normal. The blood count had revealed 4,460,000 red blood corpuscles and 8,750 leucocytes per cubic millimetre, while the colour index was 0.9. The differential count of the leucocytes was as follows: Neutrophile cells 72%, lymphocytes 20%, eosinophile cells 1% and transitional cells 7%. The diagnosis of sarcoma of the lymphatic glands had been made.

Mediastinal Tumour.

DR. C. B. BLACKBURN, O.B.E., read notes concerning two patients who had suffered from mediastinal tumours. The first patient was a man, aged twenty-three years, single, who had been admitted to the Royal Prince Alfred Hospital on April 28, 1924, on account of shortness of breath and cough of two months' duration. There had been no expectoration, no sweating and no hæmoptysis. On examination it had been found that the superficial veins of both the abdomen and the thorax were considerably distended. The chest expansion was restricted on both sides. There was dullness on percussion of the anterior surface of the chest, continuous with the cardiac and hepatic dullness. The breath sounds were much diminished over the dull area and the vocal resonance was also decreased. There was impairment of dullness to percussion behind and the breath sounds were weak over the upper lobes. No enlarged glands had been palpated. A skiagram had been prepared and a very large mass was seen. The radiographer had regarded the mass as probably a lympho-sarcoma or possibly a hydatid cyst. No reaction had been obtained to the complete deviation test for hydatid. The blood count had revealed five million erythrocytes to the cubic millimetre and four thousand, five hundred leucocytes. The hæmoglobin value had been 78% and the colour index 0.78.

Dr. Blackburn exhibited two skiagrams, the one taken on April 24, 1924, before treatment and the other taken on May 20, 1924, after three therapeutic doses of X-rays. The improvement followed four days after the first dose on May 8. It consisted in a lessening of the clinical signs

and symptoms. The dullness was lessened and the breath sounds had become more audible. The superficial veins, the cough and dyspnoea had entirely disappeared. After each subsequent treatment on May 14, May 22 and May 29, 1924, there had been a great improvement. Eight, nine and ten units had been given in cross-fire through four areas. Each unit represented ninety kilowatts, thirty-five milliamperes-minutes with a thirty centimetre (twelve inch) target-skin distance through a two millimetre aluminium filter. With the exception of a slight amount of pain which Dr. Blackburn attributed to mild peri-splenitis, the patient had recovered completely.

Dr. Blackburn regretted that he could not show the second patient. He had been a clerk, single, aged twenty-eight years, who had complained of slight shortness of breath and slight cough. He had been admitted on May 19, 1924. He had not lost weight and there had been no dyspnoea while he was in bed. On examination it had been seen that the left side of the thorax was more massive than the right side. The expansion was very little on the left side. The vocal fremitus was decreased over the whole of the left side of the chest, while on the right side it was normal. There was dullness to percussion both in front and behind on the left side and at the apex, tubular breathing and weak breath sounds over the rest of the second rib. Below this the vocal resonance was absent. Behind on the right side there was tubular breathing of cavernous type at the apex, but elsewhere the breath sounds were normal. On the left side posteriorly there was faint tubular breathing with some scattered fine crepitus at the base. Above this the breath sounds, although weak, were vesicular. The vocal resonance over the whole of the posterior surface of the left side was decreased. A systolic murmur was heard at the aortic area.

On May 22, 1924, a skiagram had been taken. The shadow picture suggested the presence of pleurisy and consolidation of the apex of the left lung. No tubercle bacilli had been discovered in the sputum. The blood count had not revealed any characteristic abnormality. About 624 cubic centimetres of fluid had been removed from the chest on May 21. It had proved to be sterile. No tubercle bacilli had been found. The fluid had contained many lymphocytes. On May 24, 681 cubic centimetres of fluid had been removed. The patient had become collapsed, but had recovered under the influence of strychnine and pituitary extract. The heart had then returned to its normal position and the murmur had disappeared. On May 29 the left arm had become swollen, bluish and painful. Pulsation in the arteries had still been palpable. The veins of the left arm had been engorged with blood, as had been a few veins over the first and second ribs on the left side. The chest had been tapped and over 466 cubic centimetres of blood-stained fluid had been removed. The patient had again become collapsed. Morphine had been given, but about two hours later he died.

Dr. Blackburn exhibited a skiagram which had been taken at an earlier date. The autopsy notes revealed that the mediastinum had been occupied centrally by a firm, white mass surrounding the great vessels like cement around a drainage pipe. It had obliterated the left subclavian vein and had extended to the left pleura which had the consistency leather. Both the visceral and the parietal surfaces of the pleura had a granular character and were bleeding. The pleural cavity of the left side was filled with fluid. The pericardium had been invaded by the tumour. The lymphatic glands in the supra-clavicular triangle were enlarged, as were the glands as far downwards as the uppermost group surrounding the abdominal aorta.

Dr. Blackburn pointed out that at first he had had no suspicion of the presence of a new growth, but a subsequent study of the skiagram had shown him that signs of the tumour had been present.

DR. H. J. CLAYTON read notes concerning a girl, aged nineteen years, who had been referred to him on January 3, 1923, with the provisional diagnosis of pulmonary tuberculosis. She had had a cough for six months. A sore throat had been contracted four months previously, but this had got quite better in a couple of weeks. There had

been increasing breathlessness for six weeks with considerable loss of weight and of appetite.

On examination it had been found that her temperature was 37.9°C ., her pulse rate 126 and her respirations thirty-two in the minute. She had looked very ill and her voice had been hoarse. A laryngologist had reported that the larynx was congested with some fullness of the arytenoids, no definite swelling and no involvement of the vocal cords. There had been considerable dyspnoea, more than could be accounted for by the increased respiratory rate and extraordinary orthopnoea; she had been unable to lie down. There had been dullness on percussion over both sides of the chest posteriorly, more intense on the right side. The breath sounds had been feeble and there had been scattered râles and rhonchi all over both lungs. Cough had been present and had a brassy character. She had been admitted to the Royal Prince Alfred Hospital. Dr. H. R. SEAR, the Radiologist, had reported that there was an enormous mediastinal shadow, which he regarded almost certainly as a lympho-sarcoma. Unfortunately the plate had been broken, but another plate had been taken a few weeks later. This skiagram, which was shown, revealed the same condition as had been seen in the first. There had been no sputum and the chart had not suggested tuberculosis. In view of the skiagraphic findings and the grave general condition of the patient Dr. Clayton had given a bad prognosis. She had seemed to be almost moribund and as she lived in the country, he had advised her parents to take her home, X-ray treatment seemed to be hopeless and impracticable. At her home, however, she appeared to have improved and had been able to return to Sydney where she had consulted Sir Alexander MacCormack. At the request of Sir Alexander, Dr. Edwards had taken another skiagram on January 30, 1923. Dr. Edwards had found that there was a large opaque mass in the mediastinum, probably due to malignant disease. The heart had been displaced somewhat to the left. Sir Alexander had advised X-ray treatment. Deep X-ray therapy had consequently been adopted with remarkable improvement in the patient's condition and reduction of size of the tumour mass. Dr. Edwards had taken a second skiagram on March 22, 1923. He had described the condition as depicted in the following terms: "Beyond a little increase in the density in the perihilar region the chest presents an almost normal appearance."

The patient had continued to be moderately well, though breathless, until June 15, 1923, when she had complained of severe pain in the lower part of the thorax on the right side. There had been shivering, cough and blood-stained sputum at this time. On July 1, 1923, she had become very breathless and had been again admitted to the Royal Prince Alfred Hospital on the third with signs indicative of double pneumonia. She had died within twenty-four hours of admission.

The autopsy findings were extremely interesting and a great deal of work had been done on the specimens removed. The right lung had been completely collapsed and had lain alongside the mediastinum. There had been no pleural adhesions on the right side and no effusion into the cavity. The left lung had had dense, fibrous adhesions over the surface and there had been a serous exudate in some pockets between the fibrous bands. The lower lobe of the left lung had been solid and appeared to be the seat of an acute lobar pneumonia. The mediastinal tissue had been firm and fibrotic and the pericardium had been firmly adherent to it. There had been a small hæmorrhagic area on the surface of the liver.

The organs had been sent to Professor D. Welsh who had expressed the opinion that there was no evidence of the presence of a neoplasm. The sections of the lung revealed extensive chronic interstitial fibrosis on both sides, with a recent acute infection superimposed of the left lung. The mediastinal tissue was also fibrotic, partly necrosed. Professor Welsh held that the condition could have been the result of a chronic inflammation. He also considered that if the fibrosis were not the result of X-ray treatment, it was of several years' duration. Against it having been due to X-ray therapy was the fact that both lungs were in different stages of fibrosis. Several glands at the root of the lung were in a condition of chronic inflammation.

These were probably, in Professor Welsh's opinion, tuberculous. There were no cells suggestive of sarcoma or carcinoma. No evidence of syphilis had been found.

Dr. Clayton raised the question whether or not the opaque mass seen in the original skiagram was a lympho-sarcoma. If it was, had the deep X-rays so completely destroyed it as to leave no macroscopical or microscopical evidence of a neoplasm? Had the rays in doing this, also destroyed the lung tissue so as to reduce the lungs to the condition in which they had been found at autopsy? In the next place he mentioned the possibility that the original opaque mass had been inflammatory, either tuberculous or syphilitic, and the fibrosis of the lungs a concomitant chronic inflammatory condition.

Dr. M. ROSS demonstrated the specimens and pointed out the several changes mentioned in Professor Welsh's report. Microscopical sections were also shown. She refrained from expressing any opinion in regard to the correct interpretation of the original shadow in the skiagram.

Dr. SINCLAIR GILLIES urged that the greatest care should be exercised in making the diagnosis of mediastinal new growth. All they were entitled to state was that the radiographical and physical signs had revealed the presence of something in the mediastinum which had cleared up after X-ray treatment. That such conditions were sarcomatous was a statement that was not always justified by facts. He had seen patients in whose cases diagnoses of this kind had been made and in whom the lesion had cleared up under varying forms of treatment. It was surprising that *post-mortem* examination did not more often disclose such conditions, considering the frequency with which the diagnosis was made.

Dr. E. H. MOLESWORTH said that he had carried out the deep X-ray treatment in Dr. Clayton's patient. The orthopnoea had been so extreme that it was impossible for her to lie down. He had therefore been compelled to give the first exposure while she was sitting up. Three days after the respiration was easier. Seven days after the first exposure she had been able to lie down. Four weeks later the large mass had disappeared. He might have given too large doses of X-rays. He admitted that the *post-mortem* findings did not tally with the clinical findings. Both sides of the chest had had the same X-ray dose; the signs discovered after death were not equally distributed. Had there been mediastinitis, it would probably have been irritated and stimulated to a great extent by the treatment. It was well established that lympho-sarcomata were among the most susceptible tumours to X-radiation. In the literature there were numerous instances of excellent results in the treatment of lympho-sarcoma. He suggested that the cells of the lympho-sarcoma had been entirely destroyed by the energetic X-ray treatment.

Dr. H. R. SEAR said that he had seen only one case of mediastinitis which had been proved *post mortem* to be inflammatory. The shadow was quite different from that of a mediastinal growth. He assured Professor Mills, in reply to a suggestion made by him, that no obliquity of rays would have given such a shadow as that seen in the two skiagrams. Moreover, the shadow had been seen on the screen which excluded this explanation. These masses might disappear and leave no traces. It was, in his opinion, possible that the fibrosis in the lungs had been caused by the X-radiation and also the necrosis of the tissue. The hæmorrhagic area in the upper part of the liver might also have been caused in this way. He had seen necrosis of the cells of new growths resulting from exposure to X-rays.

Dr. A. W. HOLMES & COURT raised the question whether the condition might not have been leucoma.

Dr. CLAYTON said that after having discussed the case with several pathologists and radiologists he had come to the conclusion that the mediastinal tumour had been a lympho-sarcoma, that it had been completely destroyed by X-radiation and that the treatment had at the same time so damaged the lung as to produce the pathological condition seen in the specimens, a condition which had increased the susceptibility of the patient to the final attack of pneumonia and lessened her resistance to it when contracted. With regard to Dr. Holmes & Court's suggestion

that the condition might have been a leucoma, he pointed out that at an advanced stage there were 10,000 leucocytes per cubic millimetre with no alteration in their relative number.

Hydatid Disease of the Bladder.

DR. R. GORDON CRAIG presented a labourer, aged twenty-six years, who had had trouble with micturition for three years. At the age of four years he had been operated on for hydatid disease of the liver. Since that time he had had five operations in various parts of the abdomen for the same disease. One operation had also been performed on account of a hydatid cyst in the left lung. There had been some hæmoptysis before and since this operation. Three years before admission he had been seized with retention of urine and he had been catheterized. A year later he had again had retention which had necessitated catheterization. There had been frequency of micturition, pain and scalding after the act. Twenty-one months before admission he had passed three or four "grape-skin" bodies *per urethram*. This had been repeated since that date at intervals. On examination by rectum a large rounded mass of the size of an orange had been felt at the neck of the bladder. In February, 1924, a cystographic and cystoscopic examination had been carried out. The cystoscope had penetrated the wall of the hydatid cyst at the neck of the bladder. The interior of the cyst had been seen through the cystoscope. The contents had been discharged. Four days later Dr. Gordon Craig had performed supra-pubic cystotomy and had drained the cyst. The cyst lining and daughter cysts had been sucked out and the cavity packed with iodoform gauze. A drainage tube had been left in the wound. During the following three months the patient had improved somewhat, but he had had great difficulty in emptying the bladder either in the ordinary way or through a catheter, owing to the passage of the catheter into the cyst instead of into the vesical cavity. In May some bleeding from the urethra had taken place. As palliative measures had failed, the patient had again been anesthetized and the supra-pubic wound, which was still open, had been enlarged. Two large sloughs had been removed from the bladder cavity. Dr. A. H. Tebbutt had reported that these pieces of tissue consisted of fibrous and necrotic tissue. No ectocyst had been seen. The patient had improved rapidly since that time. The supra-pubic wound had almost closed and he had acquired the power of micturating naturally. On the morning of the day on which the meeting was held, he had passed two small daughter cysts *per urethram*. Three days previously an acute orchitis had developed.

Melanotic Sarcoma.

DR. ST. JOHN W. DANSEY showed a heart containing an extensive deposit of melanotic sarcoma. Dr. Dansey had reported the case at a meeting of the New South Wales Branch of the British Medical Association held in June, 1923, at the Royal Prince Alfred Hospital (see THE MEDICAL JOURNAL OF AUSTRALIA, July 14, 1923, page 49). Under the caption of "melanomatous tumours" he had reported the case of his patient as a probable cure. In brief the history was that the patient, a man aged forty years, had come to him in 1921 with appendicitis. Dr. Dansey had noticed at the time a pigmented mole on the upper part of the right side of the neck behind the mandible. While the patient was under the influence of the anæsthetic for appendicectomy, he had removed the mole. A subsequent microscopical examination had proved the mole to be a malignant melanoma. Two weeks later he had removed all the glandular tissues with the sterno-mastoid muscle on that side of the neck. Secondary involvement had been discovered in the removed glandular tissues. For two years and eight months the patient had enjoyed excellent health. He had gained 6.35 kilograms (one stone) in weight and had followed his occupation of chauffeur. In January, 1924, for the first time the patient had had symptoms of subacute cholangitis. He had been admitted to the Royal Prince Alfred Hospital for observation. The cholangitis had retrogressed, but the patient had had a poor appetite and continued to lose weight. He had then been sent to a convalescent home for a month and had subsequently been re-admitted under the care of Dr. Cosh. He then had signs of cardiac weakness. The patient had

died shortly after admission. The autopsy revealed that the only signs of any secondary deposit of the melanotic sarcoma was in the right side of the heart. The whole of the right auricle and of the right ventricle were completely filled with an irregular, fungating mass of melanotic tissue, as could be seen in the specimen displayed. It looked like blood clot, but examination had proved it to be melanotic sarcoma in structure. It was not easy to conceive how the patient with this condition of the heart had been able to enjoy good health and carry out the duties of a hard worked chauffeur until within three months of his death. The deposit must have started prior to the removal of the glands, that was two years and ten months, for no other secondary deposits had been found in any part of the body at the autopsy.

DR. H. R. G. POATE recounted some details of a case in his own experience. A black mole had been removed from the frontal area and melanotic growths had been found over the parotid gland involving the lymphatics. The patient had done well for two years. Then he had been attacked with intestinal obstruction and a large mass had been discovered in the jejunum. Five years had elapsed since the first operation and three years since the second.

DR. R. GORDON CRAIG also referred to a case. This was that of a melanotic sarcoma that had been treated by radium. The liver had been riddled with secondary deposits about two years after the apparent cure.

In his reply DR. DANSEY said that the mass at the side of the neck had been so extensive that its surgical removal had been excluded. It had disappeared completely in response to X-ray treatment.

Tuberculous Disease of the Testis.

DR. H. R. G. POATE presented a returned soldier, aged thirty-five years, who had been thrown from a horse and had injured his testis. The organ had remained enlarged. Recently there had been further enlargement. He had consequently removed the organ. There was no infiltration and the epididymis was not involved. There was no sign of pulmonary tuberculosis or tuberculosis of any other part of the body. He was therefore forced to the conclusion that the condition was a primary tuberculosis of the testis.

DR. SINCLAIR GILLIES held that every effort should be made to exclude a tuberculous focus elsewhere before assuming that a testicular tuberculosis was primary. He cited a case of a man who had had a focus at the apex of one lung many years previously. This lesion had cleared up completely and had left no signs. The patient had then been attacked by a tuberculous process first in one and then in the other testis.

Malignant Tumour of the Testis.

DR. POATE also showed a man, aged fifty-six to fifty-seven years, who had come of a healthy family. Some time previously he had a sense of uneasiness about the right testicle. He had then noticed that the organ was getting larger. The *tunica vaginalis* had been tapped and fluid withdrawn. Two months later the swelling had again been tapped and sixty cubic centimetres of fluid had been removed. It had then been found that the body of the testis was enlarged. The testis had been removed. On section it had been found that there was massive infiltration involving the epididymis. The nature of the growth had remained uncertain from the examination of the section. It might have been a granulomatous, a tuberculous or a syphilitic lesion. After discussing the histological features, Dr. Poate expressed the view that the lesion was malignant.

Adeno-myoma and Myoma Uteri.

DR. REGINALD L. DAVIES, O.B.E., showed a single woman, aged fifty-one years, who had come to the Royal Prince Alfred Hospital on account of a large tumour of the abdomen. There was a history of pain and swelling over a period of two years. Some bleeding had occurred at intervals throughout the same period. The condition had been getting worse. The patient had passed through her menopause seven years previously. Her periods had been regular up to that time. On examination a large, hard mass had been felt extending as high as the umbilicus. The

mass had been continuous with the cervix. Sub-total hysterectomy had been performed and the patient had made a good and uninterrupted recovery. Dr. A. H. Tebbutt had reported that the uterine cavity was occupied by a large myoma and that there were also some sub-peritoneal fibroids. In the uterine wall and almost sub-peritoneally were dark areas consisting of masses of carcinoma cells which had apparently broken through from the fundus. At first Dr. Tebbutt had thought that it might be a sarcomatous metaplasia of the myoma invading the uterine wall. Further consideration, however had convinced him that it was a myoma with added carcinoma of the fundal endometrium.

Follicular Odontome.

Dr. G. R. HALLORAN brought up a man, aged twenty-nine years, who had complained of a slight amount of pus exuding from the site of extraction of the third upper molar tooth on the right upper side. The tooth had been removed on account of persistent pain two months previously. Since that time he had been able to suck a small quantity of pus from the alveolus. On examination a very fine probe had been passed up the alveolar fistula and a hard body had been felt which later had proved to be a supernumerary molar tooth. Lavage of the left antrum through the nose had revealed a large quantity of thick and offensive brown caseous material, the contents of a suppurating dentigerous cyst, quite unlike the washings from an ordinary infected antrum. Dr. W. B. Dight had taken a skiagram from which a supernumerary molar had been recognized, lying within the left antrum, immediately above the upper left second molar tooth. A radical operation by the Caldwell-Luc method had been performed. The buccal incision had disclosed the anterior antral wall to be protruding slightly and to be thinned. A suppurating dentigerous cyst had been found to fill the antrum and to have distended the cavity postero-internally. The cyst wall had been completely peeled off of the antrum. It was 6.25 millimetres (a quarter of an inch) in thickness, tough and partly ossified. The supernumerary tooth had been embedded into the floor of the cyst and within the antrum. A large intranasal opening had been made; the buccal incision had been curetted. Antral lavage had then been instituted through the nose. Two weeks later the antral washings had been quite clear and the original fistula had closed. Dr. A. H. Tebbutt had examined the cyst. He had reported that the contents of pieces of membrane, some containing bony plates, some necrotic debris and a tooth. The membrane was of connective tissue, fibrous in parts and elsewhere bony trabeculae were being laid down. In some places there were collections of small, round cells. The membrane was well supplied with lymphatics, but Dr. Tebbutt had been unable to find a regular lining layer of epithelium. It had probably degenerated. He had found one small piece of squamous epithelium which was possibly a remnant of an enamel organ. He agreed that it was a dentigerous cyst. Dr. George Dansey, Dental Radiographer, had reported on the skiagraphic appearances. He had come to the conclusion that the tooth was a fourth supernumerary molar. All the usual teeth in the patient were permanent teeth. After discussing the pathology of dentigerous cysts, Dr. Halloran stated that while this was not a rare condition, a cyst forming about a supernumerary tooth was extremely uncommon. Suppuration was also rare.

Tooth in a Bronchus.

Dr. Halloran also read some notes concerning a woman, aged about forty-five, who had been admitted to the Royal Prince Alfred Hospital for bronchoscopic examination. Six weeks previously she had had a cough, sputum and pain over the right side of the chest. Her condition had been regarded as a pneumonia which was slow in resolving. Immediately preceding the beginning of her illness she had had several teeth extracted. Her medical attendant had suspected that there might be a foreign body in her chest. A skiagram had been taken and a foreign body had been seen in the right bronchus. After thorough cocaineization no difficulty had been experienced in passing the bronchoscope into the right main bronchus. A mass of granulations had been encountered, completely obscuring the foreign body and the anatomical landmarks. With

the aid of cocaine and adrenaline the bronchoscope had been pushed carefully onwards until a gold crown was recognized. Its smooth, polished surface was directed upwards and the sides were grasped tightly by the walls of the bronchus. Its delivery had presented a difficult problem. No force could be used on account of the risk of injuring and even perforating the ulcerated bronchial wall. There had been no difficulty in engaging the foreign body, but whenever it had been grasped by forceps of various kinds, the blades had slipped off the highly polished gold surface. He had therefore employed a "golf stick," had passed this thin instrument alongside the tooth and by turning the toe beneath it, had been able to perform version. Delivery had then been easy. Complete recovery had followed.

Dr. W. D. Dight had examined the patient radiographically. He had reported that there was a foreign body in the right hilus region, apparently about 12.5 millimetres in diameter. In forced respiration the movements of the right side of the diaphragm were greatly impaired, while those of the left side were good. No definite abnormality had been detected in the lung fields. The appearance were consistent with those of healthy lungs in a woman of between forty-five and fifty years. Dr. Halloran pointed out that the right bronchus had been filled with exuberant granulations and a lower lobe bronchus at least had been tightly sealed off by a foreign body for six weeks. It would have been expected that the complete obstruction of a main bronchus would have led to collapse or water-logging of the whole lung. Had the foreign body been acting like a valve, so that air could enter with inspiration, but could not escape in expiration, he would have expected signs of emphysema. Neither condition had been produced. He therefore concluded that there must have been some ingress and egress of air.

Skiagrams.

Dr. H. R. SEAR gave an exhibition of numerous excellent skiagrams. The majority of these disclosed the appearances in intestinal lesions.

A MEETING of members of the New South Wales Branch of the British Medical Association was held at the B.M.A. Building, 30 to 34, Elizabeth Street, Sydney, on June 5, 1924, for the purpose of considering the advisability of inaugurating a special section of the Branch to deal with neurology and psychiatry. Twenty-three members were present and letters and other communications were announced from a further eighteen, expressing sympathy with the proposal. It was resolved that a Section of Neurology and Psychiatry be formed and that its objects be the furtherance of the study of these sciences by means of clinical meetings, demonstrations and the presentation of papers for discussion, of the holding of combined meetings with other sections of the Branch, of the encouragement of original research, of cooperation with workers in other sciences bearing on neurology and psychiatry and of other methods decided on by the Section from time to time.

The following were elected the office bearers for the ensuing year:

Chairman: SIR JOHN MACPHERSON.

Vice-Chairman: DR. A. W. CAMPBELL.

Honorary Medical Secretary: DR. RALPH NOBLE.

Honorary Secretary and Treasurer: DR. J. BOSTOCK.

Members of the Committee: DR. ERIC SINCLAIR, DR.

ANDREW DAVIDSON, DR. CHISHOLM ROSS, DR. S.

EVAN JONES, PROFESSOR A. E. MILLS, PROFESSOR

JOHN I. HUNTER, DR. A. W. HOLMES & COURT, DR.

H. HAMILTON MARSHALL.

Auditors: DR. C. A. HOGG AND DR. J. A. L. WALLACE.

It was decided that the annual meeting of the Section should be held in December in each year and that ordinary meetings should be held quarterly on the third Thursday in January, April, July and October.

The recognition of the Council of the New South Wales Branch has been given to the Section. A programme of meetings has been drawn up.

A MEETING of members of the New South Wales Branch of the British Medical Association was held at the B.M.A. Building, 30 to 34, Elizabeth Street, Sydney, on May 7, 1924, for the purpose of inaugurating a special section of obstetrics and gynaecology. It was resolved that a section be formed. The following were elected the office bearers:

Chairman: DR. FOURNESS BARRINGTON.

Honorary Treasurer: DR. R. I. FURBER, D.S.O.

Honorary Secretary: DR. ALFRED J. GIBSON.

Members of the Committee: The CHAIRMAN, the HONORARY TREASURER, the HONORARY SECRETARY (*ex officio*), DR. J. C. WINDEYER, DR. F. BROWN CRAIG and DR. RALPH WORRALL.

It was resolved that a formal application be made to the Council of the New South Wales Branch for recognition of the Section. As soon as this recognition has been obtained, the work of the Section will be started.

About twenty-five members have notified the Honorary Secretary that they desire to become members. Membership is open to any member of the Branch. A written application should be made to the Honorary Secretary of the Section and admission will be accorded at a meeting of the Section. The Honorary Secretary will be glad if those members desirous of being admitted to the Section would communicate with him at an early date at 135, Macquarie Street, Sydney.

MEDICO-POLITICAL.

THE Council of the Victorian Branch of the British Medical Association has decided to hold annual conferences of all members of the Branch for the purpose of discussing matters affecting the medical profession in Victoria. The conferences will be of a formal character. An agenda paper will be issued and motions of which notice has been given, will be printed and circulated among the members a week before the date fixed for the meeting. The first conference will be held on September 24 and 25, 1924, that is during the Melbourne Show Week. All members of the Branch are invited to attend and to suggest subjects to be discussed. The Council is especially anxious to secure a good attendance of country members. Motions to be presented to the conference must be in the hands of the Secretary of the Branch on or before Monday, September 1, 1924. Members intending to attend the conference must notify the Secretary in order that cards of admission may be forwarded to them. It is suggested that the meetings of the "Divisions" and other local groups of members throughout the State should be held at an early date. These "Divisions" and local groups will be asked to appoint delegates and to authorize the delegates to propose or support motions in accordance with the opinions of the majority of the members attending the local meetings.

The following subjects have been suggested by the Council as suitable for discussion: The Common Form of Agreement with the friendly societies, including the question of remuneration, mileage and other conditions, national health insurance, bush nursing, baby health centres, country, intermediate and private hospitals, the salaries of municipal health officers, medical insurances of all kinds, including medical defence organizations, the scope of future conferences and the advisability of holding one or more Branch meetings each year in country centres.

The British Medical Association has been constituted on purely democratic lines and every member is given a voice and a vote in the management of its affairs. It is often said that the country members derive little or no benefit from membership. Although country members labour under some disadvantage in not being able to attend all the meetings of the Branches, endeavours are made to safeguard their interests in the same manner as those of the urban members. It lies in the power of every member to propose the institution of fresh machinery which would have for its object the furtherance of the interests of members. The Representative Meeting of the British

Medical Association has been instituted for the purpose of true democratic government. Every member of every Division can attend the meetings of his Division and record his vote for or against any motion and can initiate any motion. The Representatives attend the meeting bound by the instructions of their Division which have been ascertained by taking votes at the meetings. If these instructions do not truly represent the opinions of the majority of the members, the cause is that the members do not take the trouble to attend the meetings and record their votes. In the New South Wales Branch there has been for some years an Annual Meeting of Delegates of the Local Medical Associations with the Council. This annual gathering has been cast more or less on the same lines as the Representative Meetings, although its resolutions are not binding on the Council and it acts more like an advisory body. The new movement of the Victorian Branch is based on a wider conception. The conference is open to any member of the Branch who cares to attend. It will therefore comprise individual as well as group interests, and as a debating instrument should be very valuable. Much will no doubt depend on its constitution and on the powers that will be given to it. If it is decided to allow it to function as a general meeting of the Branch, it should prove more useful than any other expedient yet devised to bring the individual members of our large and scattered Branches into active cooperation in elaborating the policy of the Branches.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

COLLINS, JOSEPH FRANCIS, M.B., Ch.M., 1924 (Univ. Sydney), 100, Glover Street, Cremorne.

CROSSIN, DAVID JOSEPH, M.B., Ch.M., 1922 (Univ. Sydney), Armidale.

FOX, MARION GALBRAITH, M.B., Ch.M., 1924 (Univ. Sydney), Lynwood Avenue, Killara.

KEYS, RAYMOND ALLISON, M.B., Ch.M., 1924 (Univ. Sydney), 29, Hill Street, Carlton.

TAYLOR, HUGH MORRIS, M.B., Ch.M., 1921 (Univ. Sydney), Gerald Avenue, Killara.

Post-Graduate Work.

PRIZE ESSAY ON THE PREVENTION OF MATERNAL MORTALITY.

THE MELBOURNE PERMANENT COMMITTEE FOR POST-GRADUATE WORK announces that a prize will be offered for the best essay on "The Causes and Prevention of Maternal Morbidity and Mortality." The value of the prize will be one hundred and fifty guineas. The competition is open to all members of the British Medical Association registered in the Commonwealth of Australia. The successful essay will become the property of the Committee and, if the Committee deem it worthy of publication, it will defray the cost. Unsuccessful essays will be returned, on authenticated application being received by the Honorary Secretaries, to the senders.

The following conditions must be observed by those competing for the prize. The essays must be type-written. Each essay must bear a motto or device and must be accompanied by a sealed envelope containing the name and address of the author and having on the outside the same motto or device. The essay must be addressed to the Honorary Secretaries of the Melbourne Permanent Committee for Post-Graduate Work, 12, Collins Street, Melbourne, and must be received at this address not later than May 1, 1925. The Committee suggest that the essays should embrace *inter alia* the following problems: (i.) The teaching of obstetrics to students, graduates and nurses; (ii.) hospital conditions, control, staffing and the like; (iii.) the conduct of private obstetric practice; (iv.) ante-

natal supervision. It is desired that the chief attention should be given to the subject of the prevention of maternal morbidity.

The essays will be judged by a small committee. The Permanent Committee reserves to itself the right to reject any or all essays received. The offer of this prize has been rendered possible by the generosity of someone who desires to remain anonymous.

We wish to point out that the action of the Melbourne Permanent Committee for Post-Graduate Work in instituting this prize in obstetrics is of great importance and indicates the tendency of the age to stimulate thought and work in the direction of the prevention of disease. The honour that will attach to the gaining of the prize, quite apart from its monetary worth, should induce a considerable number of practitioners to compete. There is no more urgent problem awaiting solution than that of the reduction of the incidence and mortality of pathological processes complicating pregnancy and parturition. By asking the medical profession to attack this problem, the Melbourne Permanent Committee is encouraging original work in aetiology, pathology and prophylaxis. It is anticipated that fresh data will be provided by the authors of the essays, that a variety of suggestions will be offered and that the ultimate outcome of the collective endeavours of the authors may be a substantial improvement in the conditions of obstetric teaching and obstetric practice. The Committee will have the right to utilize the information and ideas contained not only in the successful essay, but also in those which are placed below the first. It is the undoubted duty of bodies concerned with medical education to set into motion machinery for the improvement of practice as well as for the improvement of teaching. The Committee has been bold in moving and the boldness augurs well.

University Intelligence.

THE UNIVERSITY OF SYDNEY.

The Senate of the University of Sydney is making an appeal for funds in connexion with its scheme for cancer research. A Cancer Research Committee appointed several months ago has been authorized by the Senate to appeal for the sum of £10,000 in order that the work may be begun at once in the attempt to grapple with the disease in a concerted way. It is proposed to spend the first £10,000 in the following ways.

Publicity and Educational Work.

It is the intention of the Committee to instruct the public concerning malignant disease, its causes and prevention and as to the results of research and treatment. This object will, it is claimed, be attained by articles in the press, by public lectures and demonstrations and by such other means as may appear desirable.

Research.

Money will be required for the carrying on of cancer research at the University.

Hospital Study.

It is proposed to establish special cancer departments in conjunction with the Royal Prince Alfred, the Sydney and the Saint Vincent's Hospital. These being teaching hospitals, will be dealt with first, but as opportunity and funds permit, other hospitals in the metropolitan area of Sydney and in country districts in New South Wales will be included.

Library.

The Committee has determined to purchase a special library in order that all works dealing with the subject of malignant disease may be available for reference. A complete library will be a costly matter, but the formation of a nucleus is of paramount necessity.

Bureau.

A cancer bureau will be established at the University where administrative work may be conducted, where the

activities of the undertaking may be centralized and where records of all work done in the research laboratories and hospitals may be made. In this way research work may be developed for the more effective prevention and treatment of cancer and information may be given to the medical profession and the public.

Other Means.

The Committee propose to extend the work generally as seems best in the interests of the community at its discretion.

The Cancer Research Committee appointed by the Senate of the University consists of the following:

Sir William Cullen (Chancellor), Dr. Cecil Purser (Vice-Chancellor), Professor M. W. MacCallum (Acting Warden), Dr. G. H. Abbott, Mr. D. Benjamin, Dr. C. B. Blackburn, Sir Henry Braddon, Professor H. G. Chapman, Dr. Constance D'Arcy, Sir Samuel Hordern, Mr. E. Lloyd Jones, Mr. F. Leverrier, Professor A. E. Mills, Colonel J. Murdoch, Professor F. P. Sandes, Sir William Vicars, Professor O. U. Vonwiller, Professor D. A. Welsh.

The Minister for Public Health of New South Wales has already expressed his sympathy with the objects of this movement and it is hoped that both the Federal Government and the Government of New South Wales will give practical aid. The publicity already directed to this subject shows how urgent is the need for vigorous action. Without funds little can be done. *Corpus* sums, annual grants and donations for special purposes will be gladly received by the Honorary Treasurer of the Cancer Fund for transmission to the trustees of that fund. The money subscribed is to be vested in trustees appointed by the Senate.

Cancer research will commence under the guidance of a committee of five professors as soon as the staff and students have finished with the August examinations. A laboratory has been set apart and some apparatus is procurable. Many senior students and graduates have volunteered to assist. The details of a new bio-physical theory of cancer will be placed before the medical profession at a meeting to be held in September. At the same meeting recent biological and bio-chemical work relating to the subject of malignant disease will be discussed. Much expert advice as to cancer investigation and criticism of the methods proposed may in consequence be expected.

The University and the medical profession will do their share; the Committee therefore asks the public to show a practical interest by the provision of the necessary funds.

Correspondence.

OBSTETRICS.

SIR: In your issue of July 12, 1924, two important communications upon the subject of obstetrics will be read with much interest by all practitioners.

All must agree that the establishment of a college of obstetrics, as proposed by Dr. Dunbar Hooper, would have a far-reaching effect in improving results in obstetric practice.

Some of the many factors in the causation of puerperal mortality were touched upon in the discussion at Newcastle of Dr. Brown Craig's excellent paper on ante-natal supervision. One can endorse the plea for a better nursing service, especially in country districts.

The question of frequent examinations of the urine is one of very great importance and one feels, if the best results are to be obtained, the urine should be examined daily for the last twelve weeks in *primipara* and *multi-para*. If we are to prevent *post partum* eclampsia, tests of functional efficiency of the kidneys might well be included.

Dr. C. A. F. Clark has drawn attention to the very real difficulty of carrying out frequent examinations of the urine.

To carry out this work daily and to perform functional tests need organization, but the difficulties of such should not be insuperable. We now have laboratories in the country and many trained nurses. In certain cases patients might be taught to test their own urine. All large prematernity clinics should have on their staff a urologist and a radiologist. The question of frequent examination of the urine in remote country districts requires special consideration. If a practitioner in the country is called to see a "primipara of eight months" in her tenth eclamptic convulsion, the fact of his having a diploma of the College of Obstetrics of Australia will do little in this case to reduce the statistics of puerperal mortality.

All cases of puerperal death should be notifiable. Special forms with questions thereon should be provided and practitioners should be paid an adequate fee for filling in the forms. Such forms, collected by a central authority, would give valuable evidence on the part played by the various factors in the causation of puerperal death. Such evidence would be of value in devising future preventive measures.

Dr. Dunbar Hooper is not quite correct when he states that no surgeon would be promoted to the operating staff of a large hospital, unless possessing one of the highest surgical qualifications, because after all there are places other than Melbourne and Sydney.

However, it is time that the Federal Committee of the British Medical Association should take steps to establish a college of surgeons in Australia, in order to allow Australian graduates to obtain a higher surgical degree, equal to any in the world. Many Australian graduates are precluded from obtaining higher surgical degrees solely for financial reasons. In the words of Dr. Dunbar Hooper, we do not want new buildings nor new clinics.

In like manner, many practitioners are waiting for the Federal Committee to institute post graduate courses in the "non-university" capitals and in country centres.

Yours, etc.,

E. S. MEYERS.

259, Vulture Street, South Brisbane,
July 13, 1924.

Obituary.

ARTHUR JOHN VAUSE.

It is with regret that we have to record the death of Dr. Arthur John Vause, formerly medical officer of Bay View Private Mental Hospital, Tempe, New South Wales. Dr. Vause has been living in Hobart for some time. Some months ago he went to Scotland for the benefit of his health. He died in Edinburgh on June 1, 1924.

Medical Appointments.

Dr. J. MACARTHUR (B.M.A.) has been appointed Government Medical Officer at Culcairn, New South Wales.

Dr. F. TIPPING (B.M.A.) and Dr. E. MEikle (B.M.A.) have been appointed Government Medical Officers at Gresford and Coonamble, respectively, in New South Wales.

Dr. E. C. HALL (B.M.A.) has been appointed Medical Officer-in-Charge of the Lock Hospital at Parramatta Gaol, New South Wales.

Medical Appointments Vacant, etc..

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xvi.

ALFRED HOSPITAL, MELBOURNE: Medical Vacancies.
UNIVERSITY OF MELBOURNE: Chair of Pathology.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited Mutual National Provident Club. National Provident Association.
QUEENSLAND: Hon- orary Secretary, B. M. A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVI- SION): Honorary Secretary, Wellin- gton.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

- AUG. 12.—New South Wales Branch, B.M.A.: Ethics Committee.
AUG. 13.—Tasmanian Branch, B.M.A.: Branch.
AUG. 13.—Melbourne Paediatric Society.
AUG. 13.—Central Northern Medical Association, New South
Wales.
AUG. 14.—New South Wales Branch, B.M.A.: Clinical Meeting.
AUG. 14.—Victorian Branch, B.M.A.: Council.
AUG. 14.—South Australian Branch, B.M.A.: Council.
AUG. 14.—Brisbane Hospital for Sick Children: Clinical Meeting.
AUG. 19.—New South Wales Branch, B.M.A.: Executive and
Finance Committee.
AUG. 19.—Illawarra Suburbs Medical Association, New South
Wales.
AUG. 20.—Western Australian Branch, B.M.A.: Council.
AUG. 22.—Queensland Branch, B.M.A.: Council.
AUG. 26.—New South Wales Branch, B.M.A.: Medical Politics
Committee; Organization and Science Committee.
AUG. 27.—Victorian Branch, B.M.A.: Council.
AUG. 28.—New South Wales Branch, B.M.A.: Branch.
AUG. 28.—South Australian Branch, B.M.A.: Branch.
AUG. 31.—Victorian Branch, B.M.A.: Notice re Election.
SEP. 3.—Victorian Branch, B.M.A.: Branch.
SEP. 5.—Queensland Branch, B.M.A.: Branch.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and book-sellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad per annum payable in advance.